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# MOTOR BOATING



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*of the*  
**SEASON**  
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*In This Issue*



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28-foot Elco Express

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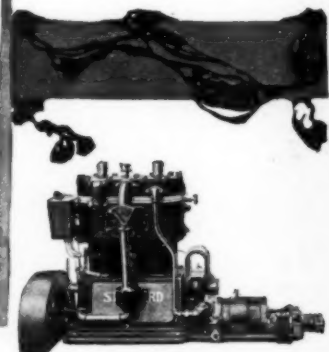
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The STANDARD'S exclusive features place the STANDARD owner on a plane far beyond all others.

You should use unusual care in buying because of conditions in the marine engine field this spring. You should buy for the future as well as for the present. Bear in mind the established value which your used STANDARD Engine always has. Satisfy yourself that the STANDARD engine costs less money for a given speed in your boat.

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July, 1913

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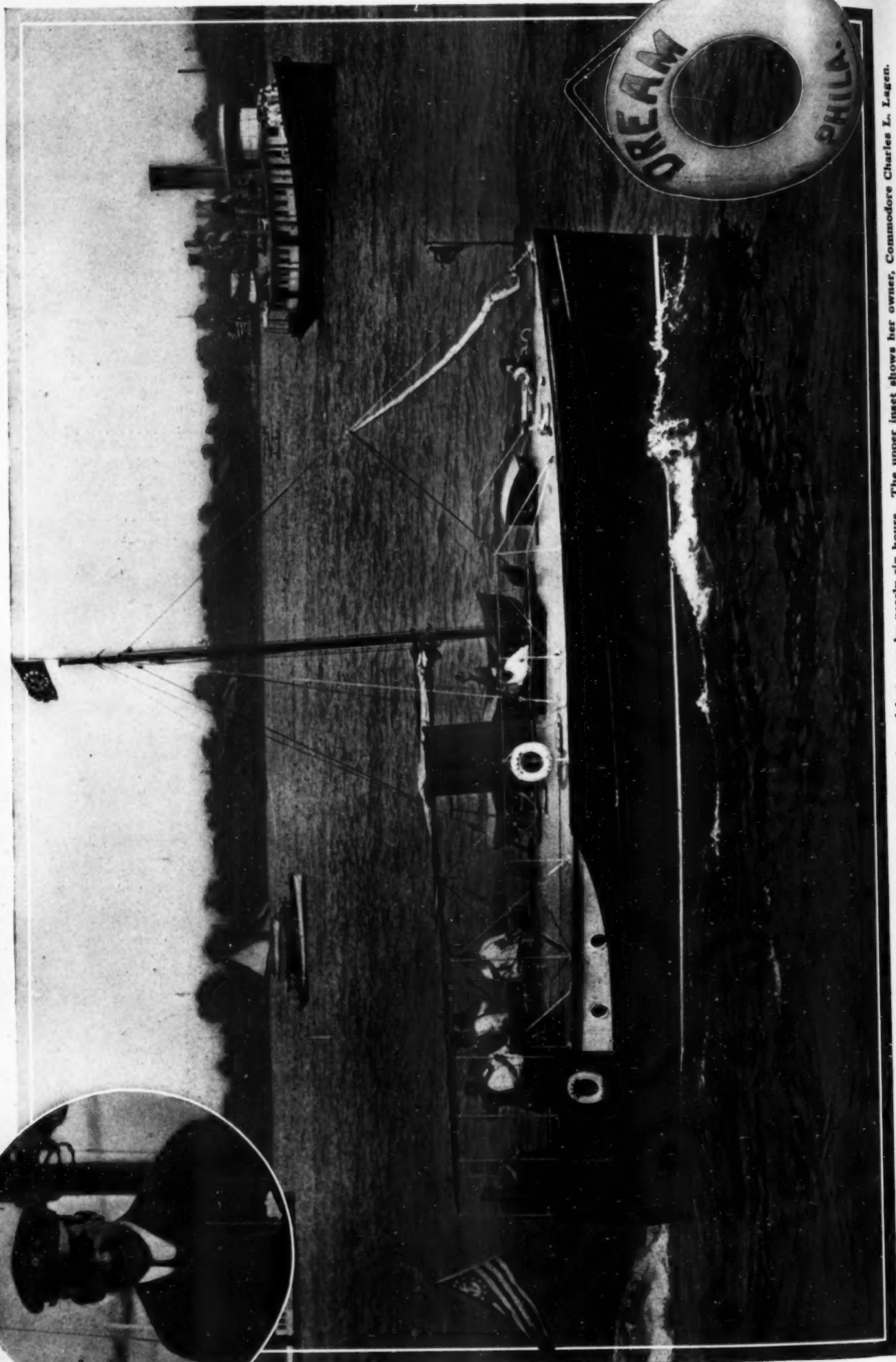
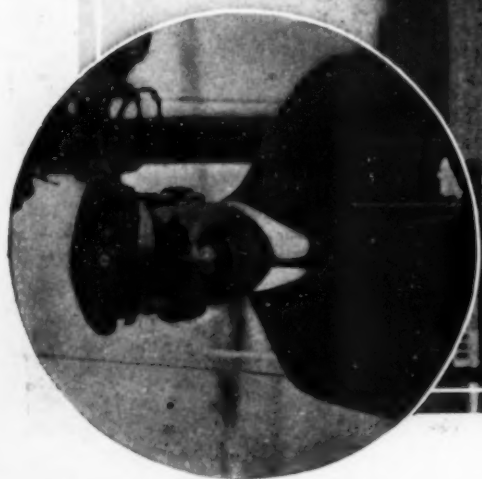
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## Away to Another Victory—Dream, the Bermuda Winner.



In getting the second leg on the Bermuda Trophy, Dream bettered her winning time of last year by nearly six hours. The upper inset shows her owner, Commodore Charles L. Lagen.



# MOTOR BOATING

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## THE NATIONAL MAGAZINE OF MOTOR BOATING

### The Race to Bermuda.

Three Well Equipped Boats Under 50 Feet in Length Again Demonstrate the Practicability of the Motor Boat for Ocean Work.

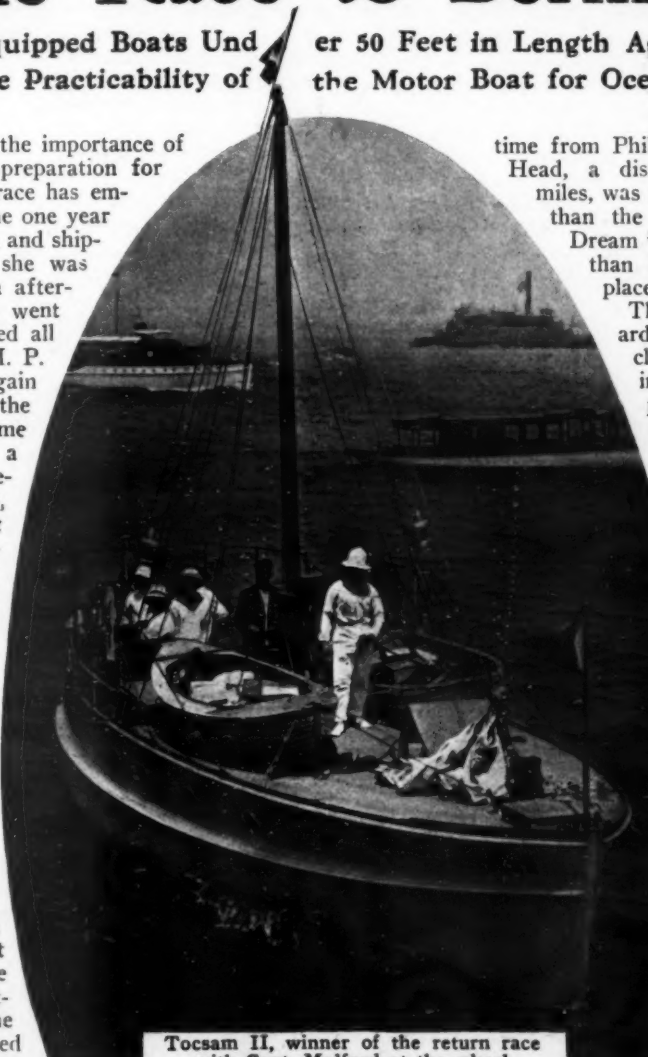
ONCE again the importance of thorough preparation for an ocean race has emphasized itself. The one year old Dream, as trim and ship-shape as though she was merely out for an afternoon's run, again went to sea and defeated all comers. Her 16 H. P. Standard motor again proved equal to the severe task and came through without a scratch. To the designers of Dream, Messrs. Bowes & Mower of Philadelphia, goes great credit for the production of this tiny craft, the smallest by far of any boat which has ever won a Bermuda Race or even competed in this classic event.

The crew of Dream practically identical to a man to that of 1912, held a course that led them straight to the Lily Isle without necessitating a change in the least. Their elapsed

time from Philadelphia to St. David's Head, a distance of 734 nautical miles, was better by nearly 6 hours than the 1912 record, although Dream was more heavily loaded than last year and her displacement 5% greater.

The regular stock Standard motor turned with clock-like regularity a 29 in. x 32 in. Columbian propeller at 430 r. p. m. and a Francke flexible coupling assured the proper alignment between engine and shaft.

To Barbara II and Tocsam II also should go a great deal of praise. The race scheduled for the early date of June 7th in order to take advantage of the prevailing good weather conditions at this time of the year, necessitated an early preparation especially for a new boat. In this respect Tocsam was far ahead of any new boat that has ever come to the starting line but no doubt next year



Tocsam II, winner of the return race with Capt. Mulford at the wheel.

Start of the Bermuda Race, Dream in the foreground, Barbara II near the revenue cutter and Kathemma, last year's contestant, between them.





Deck views of the three Bermuda racers, Tocsam II, Barbara II and Dream. The shape of the sterns of the three boats was very similar and is the result of the experience with former ocean racers.



Measuring Barbara II at Es-sington.

she will be in far better shape to make a run for the money. Tocsam's heavy duty Sterling motor stood up like a hero through all the nasty weather which was experienced and further emphasizes the reliability of the modern gasoline motor.

In the run down the Delaware Tocsam II appeared as a likely winner for she was making the best performance of the three, considering her time al-

lowance and speed as far as the Capes.

Barbara II was the first to arrive at St. David's Head and her elapsed time was the best that has been made in any race since 1909.

Her 50 H. P. Ralaco motor drove her at a good 10 mile rate through the roughest part of the Gulf Stream and her equipment was of very best obtainable. Barbara's elapsed time for the 734 nautical miles was 85-55-20.

Measuring the sail area of Tocsam II.



Bow views of Barbara II and Tocsam II. The striking contrast in the designs of Schock and Whitaker are well brought out.

# The Story of the Winner.

The Navigator's Account of Dream's Victorious Run to the Lily Isle. How She Bettered Her Last Year's Time by a Matter of Some Six Hours.

By George E. Goldbeck, Jr.

*Navigator of Dream.*

**T**HE little 40-footer Dream, winner of the Bermuda race of 1912, crossed the starting line off Race St. Wharf, Philadelphia, at 1:30 P. M., bound for a hard grind to Bermuda.

After crossing line with our competitors we worked our way down ship channel to sea. At 6:13 Reedy Island tide indicator is abeam and we are carrying jib and mainsail with light wind. A very black squall is making in the northwest, starting to rain and blow before passing Ship John Light—before passing Ship John the wind struck us from the northwest.

Having experienced sail boat men among the crew, the increasing wind did not scare us and we continued to carry full sail in spite of the heavy puffs. When these hit us, Dream healed over on beam ends at times, causing the engine to race badly from 430 to 460 revolutions per minute, but the sail helped us wonderfully. The rain made it so thick that it was difficult for the navigator to make out the lights.

Ship John Light was abeam at 7:48 P. M. with a hard rain falling and very thick. Cross Ledge Light abeam 9:05 P. M. Conditions no better. Sail is still being carried making the boat heal badly. Engine still racing. Compass course of S SE being steered as it is impossible to see lights. White caps make the bay look very light.

10:27 P. M. abeam of 14 ft. Bank Light, steering compass course to point off Brandywine Shoal Light.

Brandywine Shoal Light abeam on port at 11 P. M.

At 11:23 A. M. Sunday, June 8th, pass and report to Overfalls Lightship. The brometer at this time is 29.6, wind northeaster. Change course to southeast. Still carrying sail and Dream well healed. Up to 3 A. M. it is blowing hard and heavy seas running, but we are carrying full sail.

4 A. M. finding the yacht getting some bad knockdowns on account of the frequent

squalls and that the speed does not seem to be materially increased, we therefore take in the mainsail.

At 6 A. M. still holding to jib although getting some had lurches. The sky is overcast and very thick, blowing hard from the northeast. Solid water is coming aboard, drenching the deck crew. All hands below are sleeping in wet clothes.

No morning sight for longitude, same conditions to noon, no sights.

Sunday P. M., June 8th, from noon to midnight the wind has been blowing at about 35 miles per hour and the sea is getting rougher every minute, but this is great sport for Dream and she simply rolls the sea under, and her last year's crew are well acquainted with her tricks.

Still raining hard but as the deck

crew is getting drenched from water coming aboard, they think nothing of the rain as it just washes the salt off.

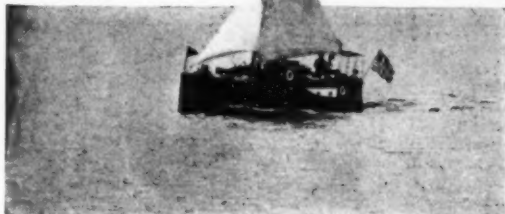
We enter the Gulf Stream about 4 P. M. Sunday.

Monday A. M., June 9th, same conditions as during last 12 hours and we are following the regular ship's routine and changing watches regularly. No hot meals are being served as a lighted stove in the cabin is considered dangerous in a sea-way. Have same luck with a strong northeaster, making it cold and wet. Sky overcast and no morning sight obtained. Same luck at noon.

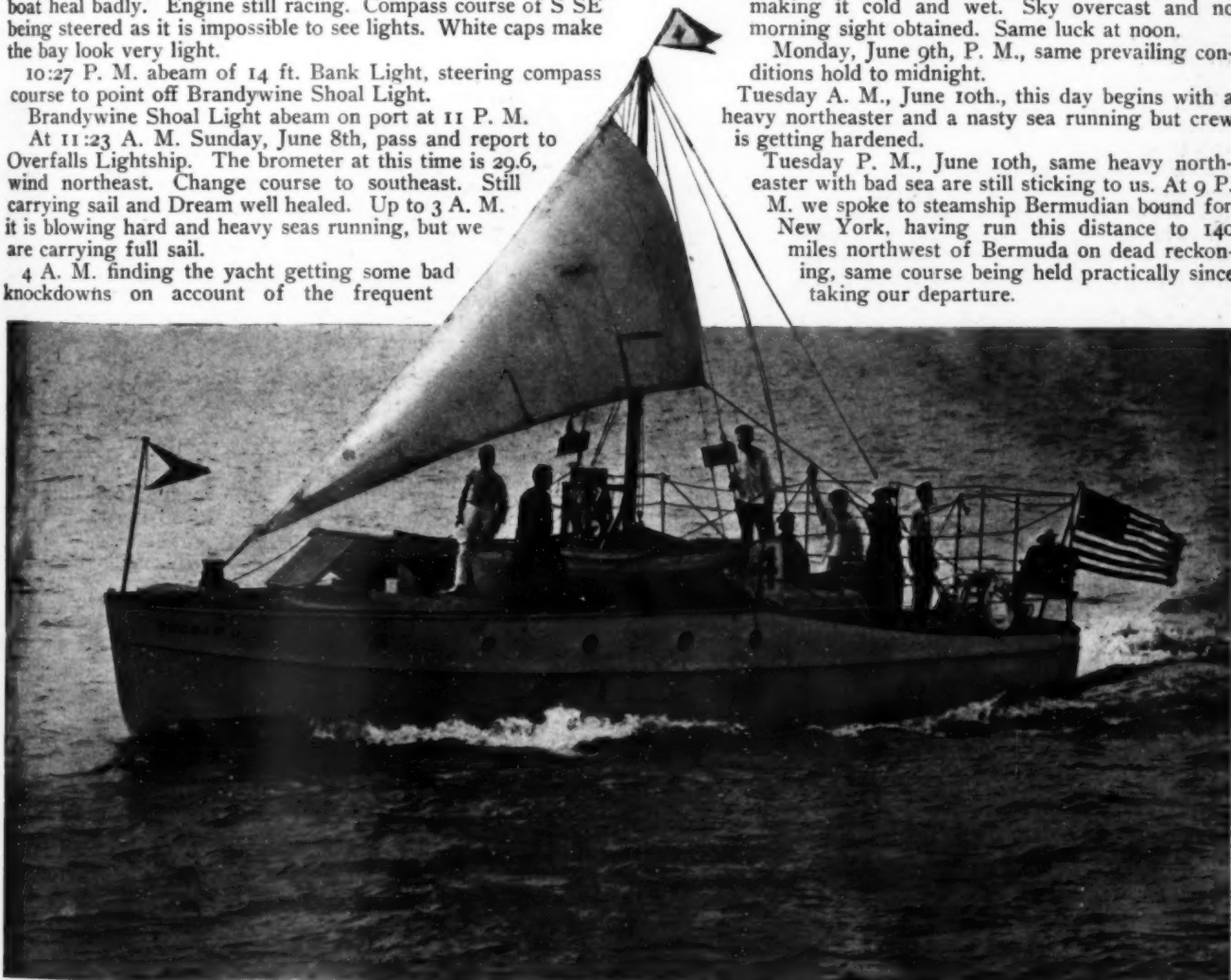
Monday, June 9th, P. M., same prevailing conditions hold to midnight.

Tuesday A. M., June 10th, this day begins with a heavy northeaster and a nasty sea running but crew is getting hardened.

Tuesday P. M., June 10th, same heavy northeaster with bad sea are still sticking to us. At 9 P. M. we spoke to steamship Bermudian bound for New York, having run this distance to 140 miles northwest of Bermuda on dead reckoning, same course being held practically since taking our departure.



From a snapshot of Dream made as she was rapidly becoming a speck upon the ocean.



Tocsam II passing Reedy Island on the Delaware. She is being helped along considerably by the strong northwest squall that hit the racers five hours after they left Philadelphia. Tocsam II was the only boat in the race which carried two dinghies on deck.



Wednesday, June 11th. At 6 A. M., one of the after feeding tanks is getting low. Commodore Lagen empties 5 gallons (of gasoline) in after tank and in a few seconds the engine stops. Remains in this condition for 1½ hours. Upon investigation we find that the liquid in the supposed 5 gallon gasoline can is water.

While the engineer was overhauling engine and trying to start the same, the sun appears for a few minutes so that a shot at it was taken for future use if necessary. At noon the sun appears again for about 15 minutes so that a meridian altitude is observed. This sight worked out with the hasty unreliable morning time sight places the yacht about 30 miles from Ariadne Bank. This about checks with our dead reckoning. We are still holding a course of southeast.

Wednesday, 1:30 P. M., a tramp steamer of about 6000 tons crossed our stern bound east southeast, rolling badly. We continued to hold the southeasterly course and sight Bermuda at 2:30 P. M., Philadelphia time, and crossed finish line at 4:12 P. M., Philadelphia time. This makes us the winner on corrected time for the second consecutive year.

As to the actual running of the Dream the watches were divided. The deck crew in starboard watch was composed of Commodore Chas. L. Lagen, owner; Darrel and Thomas Larsen. Port watch had Fred Biddle, Wm. T. Wheeler and Geo. E. Goldbeck, Jr. Regular sea watches were held 4 hours on and 4 off, except day watches 4 to 8, when we had 2 on and 2 off. The men in these watches are experienced helmsmen and only standing half-hour tricks at the wheel made more reliable steering than a longer trick does. Having 6 reliable-helmsmen on a 40 footer in an ocean race of this kind is the greatest asset.

Sailboat men composed the deck crew, so they can always be depended upon.

After reporting at Overfall Light Ship the compass course was made Southeast and held—no allowance was made for drift of current between Gulf Stream and shore or drift of Gulf Stream, holding a straight course enabled us to make a good land fall. The S.S.W. set of current between Gulf and land, and the Northeast set of Gulf Stream which had a strong Northeast gale against it seemed to be a compensating error, as was proven by good steering on one course and picking the S. S. Bermudian 140 miles N.W. of Bermuda on calculated time.

Words cannot express the gratitude of the Dream's crew to Captain MacKenzie, of the Bermudian, for the courtesy extended for stopping and altering his course

to greet the Dream and wish her and crew good luck of further distance of 140 miles to Island. The meeting of this ship certainly gave the navigator confidence after running this distance without sights.

When the Tec was barred from the race, owing to leaking gasoline tanks and not being ready for the grind, Commodore Lagen invited Mr. Wm. T. Wheeler as guest, and to our amazement found him a hard worker, and one of the finest helmsmen that was ever at the helm of a 40 footer and a jolly good shipmate always on the job.

Mr. Owen Darrel, of Bermuda, another fine helmsman and shipmate, was of the greatest help, especially when near Bermuda, as his expert local knowledge saved the Dream one-half hour of time in crossing Reefs.

The mate, Mr. Fred D. Biddle's, reputation as a helmsman in this and last year's Bermuda race is well known.

Now, as to the amateur engineer, J. J.

Sproul, the best ever—the man who controls the heart in a seaway—always on the job; a lively, jolly fellow keeping the crew from getting seasick—this man kept the heart of Dream beating at a constant speed of 430 revolutions per minute hour after hour. The man who can inhale gasoline fumes and cylinder oil and stay on the job is the one who is responsible for winning races.

Thos. Larsen, another good helmsman, an all-round man, was always on the job.

A little dope from the engineer: The temperature in the engine room was 90° going down the Delaware River, and at sea the temperature was between 80 and 85°.

It took the Dream 98 hrs. and 42 minutes to make the run, including 1½ hours shut down, with an average of 430 revolutions and time of 98.7 hrs. and allowing for 1½ hours shut down. 2,545,815 revolutions of engine were turned, this causing the consumption of 185 gallons of gasoline and 4¼ gallons of lubricant used.

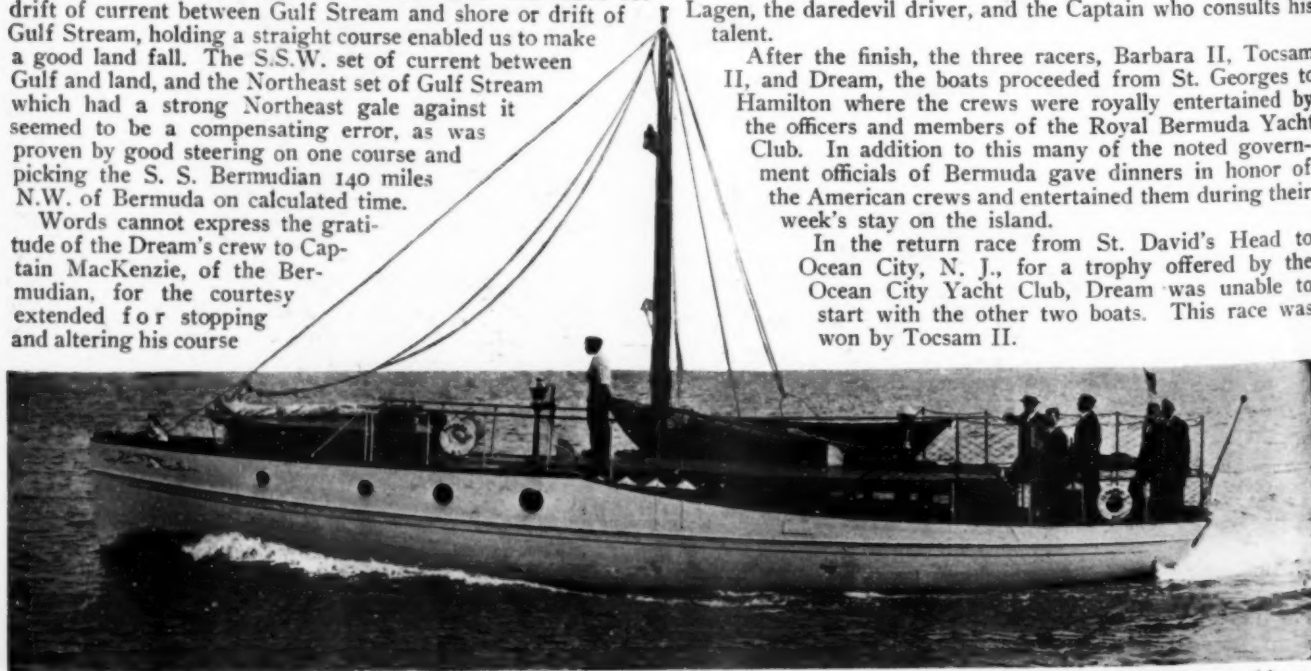
The whole crew salute the Captain, Commodore Chas. L. Lagen, the daredevil driver, and the Captain who consults his talent.

After the finish, the three racers, Barbara II, Tocsam II, and Dream, the boats proceeded from St. Georges to Hamilton where the crews were royally entertained by the officers and members of the Royal Bermuda Yacht Club. In addition to this many of the noted government officials of Bermuda gave dinners in honor of the American crews and entertained them during their week's stay on the island.

In the return race from St. David's Head to Ocean City, N. J., for a trophy offered by the Ocean City Yacht Club, Dream was unable to start with the other two boats. This race was won by Tocsam II.

### Official Measurements and Details of the Bermuda Boats.

	Dream	Tocsam II	Barbara II
Owner .....	C. L. Lagen	L. W. Mulford	W. M. Duncan
Club .....	Yachtsmen's	Ocean City	Staten Island
Designer .....	Bowes & Mower	M. M. Whitaker	E. B. Shock
Builder .....	So. Jersey Y. B. C.	E. Townsend	J. S. Ellis
Year built.....	1912	1913	1912
Make of engine.....	Standard	Sterling	Ralaco
L. O. A.....	39' 10"	44' 11"	50' 10½"
L. W. L.....	39' 1"	42' 10¾"	48' 4"
Overhang bow.....	0' 5"	0' 5¼"	0' 8"
Overhang stern.....	0' 4"	0' 9"	22½"
Extreme beam.....	9' 6½"	11' 8¼"	11' 3½"
W. L. beam.....	8' 10"	10' 6½"	10' 4½"
Draft at section.....	19¾"	25"	21½"
Area of section.....	14.26 sq. ft.	21.96 sq. ft.	22.31 sq. ft.
Bore .....	6"	5½"	7"
Stroke .....	8"	8"	9"
No. of cylinders.....	2	4	4
Cycle .....	4	4	4
Horsepower .....	18.85	31.68	51.31
Rating .....	36.36	37.98	45.36
Propeller .....	29 x 32	30 x 26	40 x 44
Position of Engine Amidship		For'd	For'd
Life Boats .....	1	2	1
Gasoline Capacity.....	360 gals.	800 gals.	700 gals.
Lighting .....	Electric	Electric	Electric
Ignition .....	M & B	Jump	M & B
Rudder .....	Outboard	Inboard	Inboard
Steering Wheel .....	Aft	Aft	Aft



Barbara II on the Delaware just before the start of the race. Her normal steering gear is on the bridge deck, but for this race this was disconnected and a temporary one rigged on the after deck.



# The Waters of Tomorrow

A Cruise of Adventure in the Gulf of California, the Wonderful Opportunities It Offers to the Man With the Motor Boat.

By Edward Albert Salisbury.

(Commodore Guaymas, Mexico, Motor Boat Club.)



Commodore Salisbury.

**W**ILL leave tomorrow, coming straight through. Please meet us. (Signed) Phil."

It was Friday afternoon and this would bring them into Guaymas Sunday night, December 1st. They were to spend but two weeks with me, and I had promised to have everything ready for the start upon their arrival. Six days before, the Wanderer with the crew had been sent to Santo Rosalia, eighty miles across the Gulf of California, with instructions to return not later than the 28th.

Saturday morning, the 29th, and no Wanderer. I sent a wireless message, and in an hour had an answer that she was just leaving. It is only an eight or nine hours' run for the Wanderer from Santa Rosalia to Guaymas, and I asked the Comandante to notify me as soon as she has been sighted by the lookout on Cape Haro. At four o'clock, having received no word from him, I sent another wireless, and this was the answer:

"Captain and Engineer had fight outside and are now back in harbor. Send instructions." (Signed) Garazar.

If I had been wild before, I was furious now. But eighty miles of water separated us, and they were safe, temporarily, at least. In reply to this aerogram I sent the following:

"Get another Captain and dispatch her at once."

Sunday morning I reached the muelle (landing) at daylight. The Wanderer had not arrived during the night, and at eight o'clock she was still to be heard from. The Comandante informed me that the telephone to Haro Point was not in working order, and being Sunday, the wireless station was closed.

Finally we sighted her coming careening drunkenly into the harbor, but what was my horror to see flying from her halliards at half mast—the yellow flag.

Well, to make a long story short, the Wanderer had left Santa Rosalia about 8:00 o'clock P. M., with a new Captain, a Mexican boy, and the Engineer as crew. About midnight the Captain had gone below for a bite to eat. Before leaving Santa Rosalia he had purchased some canned salmon at the store of a Chinaman, and shortly after eating it had been taken violently ill with ptomaine poisoning. The Engineer had been blind drunk upon leaving, and was still in the same condition. The Mexican boy who was steering, left the wheel to help the Captain, but ignorance of the cause of his illness left

him powerless to assist him. He tried to arouse the Engineer, but could only get an occasional grunt. Frantic and alone, in the middle of the Gulf with, as he thought, two dying men, he did not know what to do.

The Wanderer all this time had been steering her own course, going principally in a circle. The good old Standard had not missed a shot, and about 5 A. M., when the Captain grew quiet and began to stiffen, the boy went on deck. He did not remember the course that had been given him, but peering out into the darkness, he saw the light on Point Haro, the entrance to Guaymas harbor, and headed for this light, but about six o'clock the engine stopped, the gas in the starboard tank having given out. Surely he was in for it now. He did not know how to start the engine, neither did he know the reason why it had stopped. He was crying as he went below to see if the Engineer was dead. No, he was breathing heavily, and after about an hour the boy succeeded in arousing him enough to make him understand that the engine had stopped.

Jim, the engineer, is a little, red-headed Irishman, and when sober, a better engineer could not be found, but when drunk, he is absolutely worthless. In his semi-stupor he surmised the trouble, and turned the valve on the port tank. Throwing out the clutch and retarding the spark, he told the boy to turn over the fly wheel, and off she started. After throwing in the clutch and giving her a little oil, he went again to his happy sleep.

When she passed us on the outside, Jim was still asleep. The Mexican boy did not know me, nor did he know how to throw out the clutch to stop her, so went by at a good nine miles an hour, but inside the harbor, he again aroused the engineer, and together they brought her to anchor.

After the doctor finished his inspection, and the Judge held a coroner's inquest, the boat was turned over to me. I had six men waiting with potash, Sapolio, soap and hot water. Everything was hauled out of her and she was scoured, both inside and out. I had ordered the supplies Saturday, and early Monday morning they were at the landing ready to be taken aboard.

We had been planning this trip up the Gulf for bighorn, antelope, deer, javelins and fish, and were to leave from Guaymas, which is the most northerly port in the Gulf of California, and cruise north into the game districts between the Island of Tiburon and the mouth of the Colorado river. This territory is uninhabited except for a small band of Seri Indians, and the hunting and fishing is without an equal on the American continent. I had made many trips over the same course, but the boys, Harry, Phil and Ed (who were from California), and Frank (an automobile manufacturer



The remains of the old French fort at the entrance to Guaymas harbor.



Taking provisions aboard the Wanderer at Guaymas, Mexico.

from Ohio),  
While I fin-  
boys spent  
mon with all  
Guaymashas



and its  
cathedral.  
"Oye, tu!  
Larga la  
caudera!" (Hey there,  
you! Let go that  
line!) Several Mexi-  
cans who had been  
standing about the  
landing, after the  
ting in each other's  
way, managed this  
difficult task, and  
with a word to the  
Engineer, who had  
now gotten on his  
feet again, we  
were soon under  
way, with the  
Wanderer headed  
for the entrance of  
the harbor.

As we pass out,  
many fishermen  
are seen in their  
dugout canoes,  
loaded down with  
their catch, which,  
two or three hours  
later, will be aboard  
the trains making  
its way into the in-  
terior cities and  
many mining  
camps. To star-  
board are the ruins  
of the fort, which  
was built at the  
time of the French  
invasion in 1864.  
Several large  
tramp steamers,  
with cargoes of mer-  
chandise from for-  
eign ports, are unloa-  
ding on to barges, which  
are in turn towed to the  
Customs House and dis-  
patched. Many small coast-  
ing schooners are tied up at  
the seawall unloading alfalfa,  
produce, and wood from the  
Yaqui Valley; dates and sugar  
cane from Mulege; while still fur-  
ther along are others with chickens, eggs,  
beans, and mats.

Once outside the entrance, we turned  
north along the rocky bluffs, where many  
beautiful formations and exquisite color-  
ings meet the eye, and from this time until we reached Estero  
de Tastiota, some sixty miles north, we were in the land  
of dreams.

Thousands upon thousands of pelicans, countless numbers  
of seagulls, shags, divers, terns, sawbills, pilot birds, and sea  
ducks, were seen on every side. Schools of small fish broke  
water, driven to the surface by larger ones, while from above  
the birds reaped their harvest. The water seemed alive, and  
from the bow you could see fish scurrying in every direction.

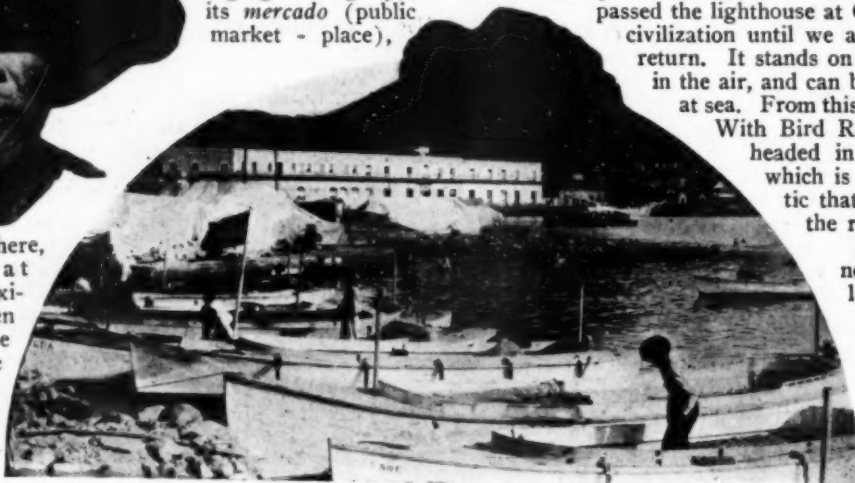
were making the trip for the first time.  
ished preparations for the trip, the  
their time sightseeing, for in com-  
well regulated Mexican cities,  
its bull ring, its plaza (where a  
well drilled orchestra plays en-  
chanting Spanish airs,  
and beautiful señoritas  
congregate nightly),  
its *mercado* (public  
market - place),

Great mantas, schools of mackerel varying from fifteen to  
thirty inches in length, yellow-tail weighing as much as seventy  
pounds, cabrilla over 200 pounds, Jew-fish twice as large, to-  
toaba, rooster-fish, red-snappers, white sea bass, corbinas,  
great sea turtles, sardines, and dozens of smaller kinds, made  
one grand moving picture. The water is clear as crystal, and  
beautiful jelly-fish of many hues lent enchantment to this para-  
dise of all waters.

Four miles up the coast from the entrance of the harbor we  
passed the lighthouse at Cape Haro, the last of  
civilization until we again passed it on our  
return. It stands on a sheer bluff 250 feet  
in the air, and can be seen for many miles  
at sea. From this light we bore N. NW.  
With Bird Rock to starboard, and  
headed in close to Lion Rock,  
which is a formation so realis-  
tic that it is easy to see how  
the rock received its name.

San Carlos Bay was  
next with its beautiful  
landlocked anchorage,  
and over it *Las Tetes*  
*de Cabra*, a giant  
mountain with its  
two great peaks.  
Here we decided  
on a fish for din-  
ner, and headed  
in close to the  
rocks and threw  
out our line. Hard-  
ly had it reached  
the water when a  
cabrilla grabbed it,  
and a ten-pound  
fish resembling a  
rock cod was soon  
flopping about the  
deck. The *mozo*  
(helper) was given  
orders to prepare  
it for the cook, but  
scarcely had he  
reached the bow  
when we hauled in  
a twenty-pounder.  
This could have  
continued indefi-  
nitely, but being  
anxious to get into  
harbor early so  
that the boys might  
do a little hunting  
in the evening, we  
gave her full speed  
ahead, and were  
once more on our  
way.

About five o'clock  
we headed into San  
Pedro Bay, a very  
pretty little cove about  
forty miles north of



The motor boat landing at Guaymas.



The 47-footer Wanderer with her new schooner rig.



Enjoying the fine December weather.

Guaymas, where we  
decided to spend the  
night. High Shot  
Phil (you will  
have to ask Phil how he  
got this name), Harry and Ed,  
told that deer were plentiful here.  
Immediately filled with the lust of slau

(Continued on page 64)



on being  
were im-  
ginter, put



# Beaten by the Clock

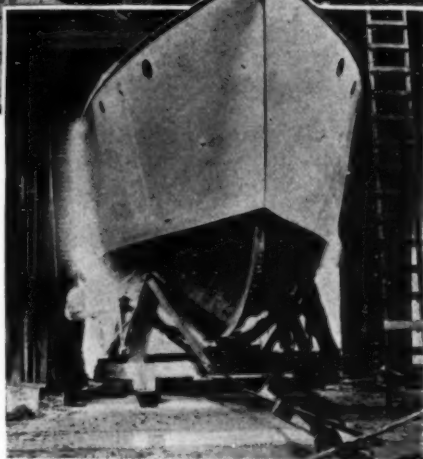


Talequah ready for the water

**A** GAME but losing fight against time explains, in a word, the failure of Talequah to start in the Bermuda Race. Built in two months under the supervision of her owner, D. C. Hadley, quietly and with no publicity, she was entered at the last minute, and when it was found impossible to get her off with the others on Saturday, June 8th, efforts were redoubled in an endeavor to get her to Philadelphia Sunday or Monday.

But on Sunday night she was still on the ways, and it was not until Monday afternoon, after a morning of feverish work, that she was finally launched. There was no time to take on regular ballast, and all hands, including the spectators, turned to and loaded her with bricks, as there was yet a chance of making Philadelphia Tuesday by running all night through the canal.

If you have ever tried to prepare a boat for an ocean race, you'll appreciate the task. Although complete as to hull and power plant, Talequah was entirely unfinished, both above and below decks, and it was the plan to ship a gang of carpenters to whip her into shape on the way to Philadelphia. But then there was the matter of the adjustment of the compass, the installation of water tanks and



The Story of Talequah and a Fight Against Time.

except for a touch or two.

engine-room signals, making and stepping a stick and a hundred more things small in themselves, but overwhelming in the aggregate. And so it was that on Monday night with provisions and equipment aboard, and, after a splendid effort by every man concerned, it was realized that failure was inevitable.

But Talequah herself is no failure. She is as healthy a type of craft for such a race as it has ever been our pleasure to look at. She is 50 feet overall by 12 feet beam, and her draft is nearly 6 feet. Her underbody is a joy. With her S sections and the long drag to her keel, she shows the influence of the Gloucester fisherman. There is a hard enough bilge for her stability, though, and with her high freeboard, broad counter-stern and her heavy construction throughout, she'll go anywhere at all in comfort. Talequah's motor is a husky 50-

h.p. Automatic—a dandy, and it just suits her. It is provided with make-and-break ignition, besides two distinct high-tension systems, and the three sets are so arranged that each may be run on either of two distinct sources of current. The four fuel tanks in the engine-room (Cont. on page 64)



The man who tried and those who helped him.



# The Typical American Motor

The Prevailing Practice in Length, Beam, Draught and Horsepower,  
tion Based on the Measurements

Average Beam

11'-3  $\frac{5}{8}$ "

Average Draught

3'-9"

Construction  
Wood

Average  
53'

**R**ECOGNIZING Lloyd's as an authority on existing motor yachts in this country, particularly as regards their type, construction, length, beam and their other physical details, we have analyzed their records to determine the average particulars of this class of boats.

Of about 2,000 American motor yachts we find that wood is naturally the most popular material used in the hull construction, although iron, steel and composition are not by any means unknown. Of the various types of boats the trunk cabin is by far the most popular, although the raised deck is a close second and is

gaining yearly in popularity. Of the other types which appear in considerable numbers are the cabin house, flush deck, half deck and deck cabin boats.

When we refer to the power plant we find the four-cycle motor by far the most popular in the motor yacht, although the two-cycle engines are very prominent, especially in the smaller sizes of boats. Power plants with four cylinders also out-distance the other type, with second choice about evenly divided between the two-cylinder motor and those with six cylinders. Of course, the one, three, five and eight-cylinder motors are also present, the latter chiefly in twin screw

# Yacht

Together With the  
and Details of

# of the Present Day.

Predominating Popularity in Type and Construc-  
Some Two Thousand Boats.

Motor: 4 cycle  
Cylinders: 4  
Average Bore:  $6\frac{1}{32}$ "  
Average Stroke:  $7\frac{1}{4}$ "

Trunk Cabin Type

Length

$53\frac{3}{4}$

installations. The average bore of the 2,000 odd motors is slightly over 6 inches and the stroke  $7\frac{1}{4}$  inches. These figures were obtained by adding up the bores and strokes of all the engines and dividing by the number of engines.

In the same way the figures for the average length over-all was obtained and the quotient showed a length 53 ft.  $5\frac{3}{4}$  ins. Lengths all the way from around 25 feet up to 100 feet and a few even larger were taken into consideration.

The extreme beam showed up as 11 ft.  $3\frac{3}{8}$  ins. as an average and the draft 3 ft. 9 ins. Taken all together, these figures represent a very well proportioned motor yacht and

one which lines up very well with those that are being turned out for 1913 work.

A four-cylinder four-cycle motor of the dimensions of the average engine which was found to be used to propel the average of these two thousand motor yachts in this country, would work out between 35 and 45 horsepower, depending upon the number of revolutions at which the motor was run at. Such a motor would be very excellent practice for a 53-foot motor boat of to-day and should give a boat of this length and a beam of 11 ft.  $3\frac{3}{8}$  in. over all, a speed of about 11 miles per hour, and with the ordinary fuel capacity, a cruising radius of over 500 miles.

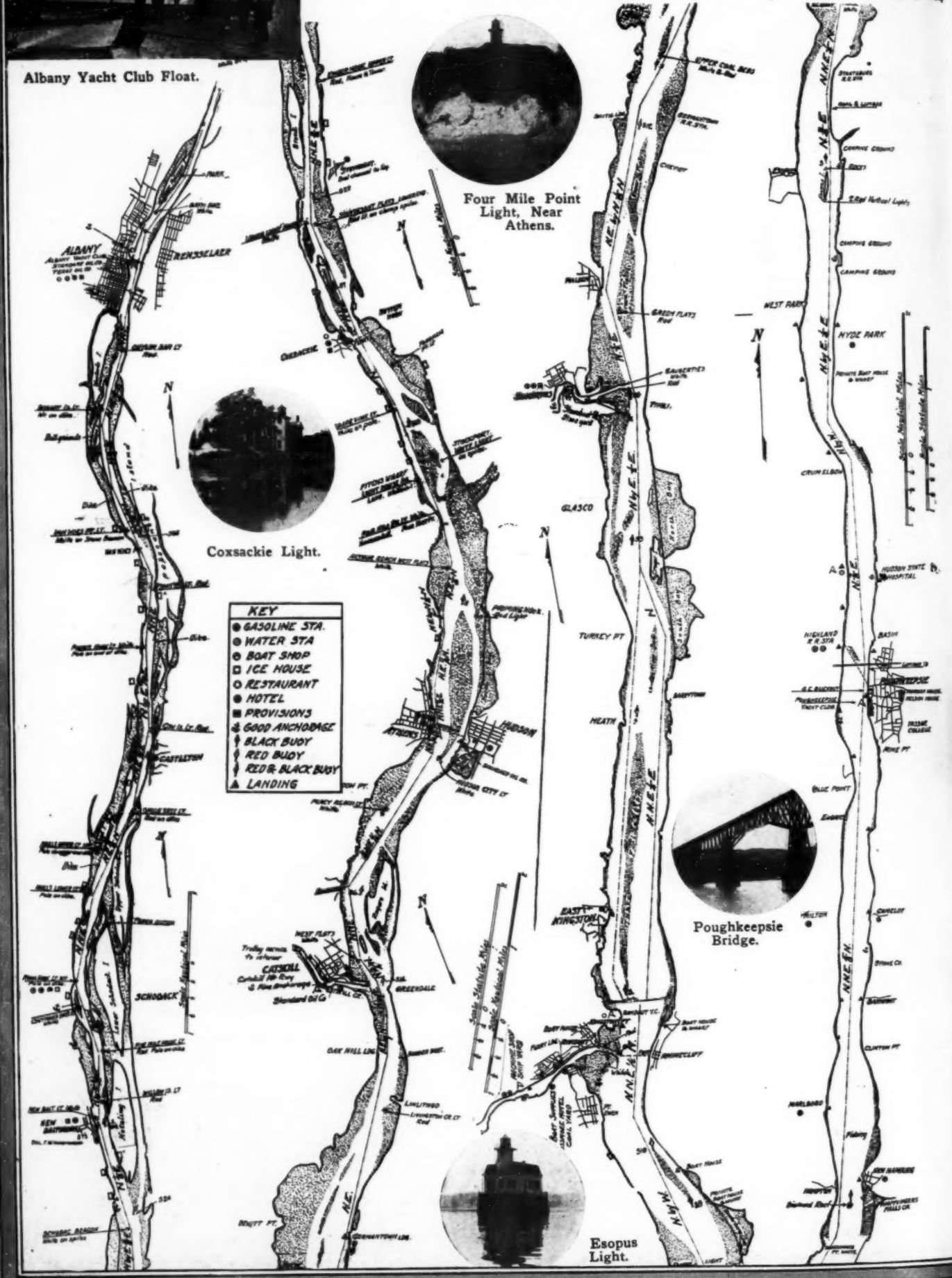




Albany Yacht Club Float.

# A Chart of the Hudson, Which Shows

This Is the Only Chart So Far Published That Shows the Proper Course Up and Boat Shops, Ice Houses, Restaurants, Hotels, Provision Large copies of this chart, having a total length of approximately 19 feet,





# All the Motor Boatman Wants to Know.

Down the River and at the Same Time Enumerates Gasoline Stations, Water Stations, Dispensaries, Good Anchorages, and the Different Buoys and Landings. may be obtained from MoToR BoatinG by remitting fifty cents.



New York Motor Boat Club Float and House.



Shattemuc Yacht and Canoe Club at Ossining.



Rockland Light.



West Point from the River.



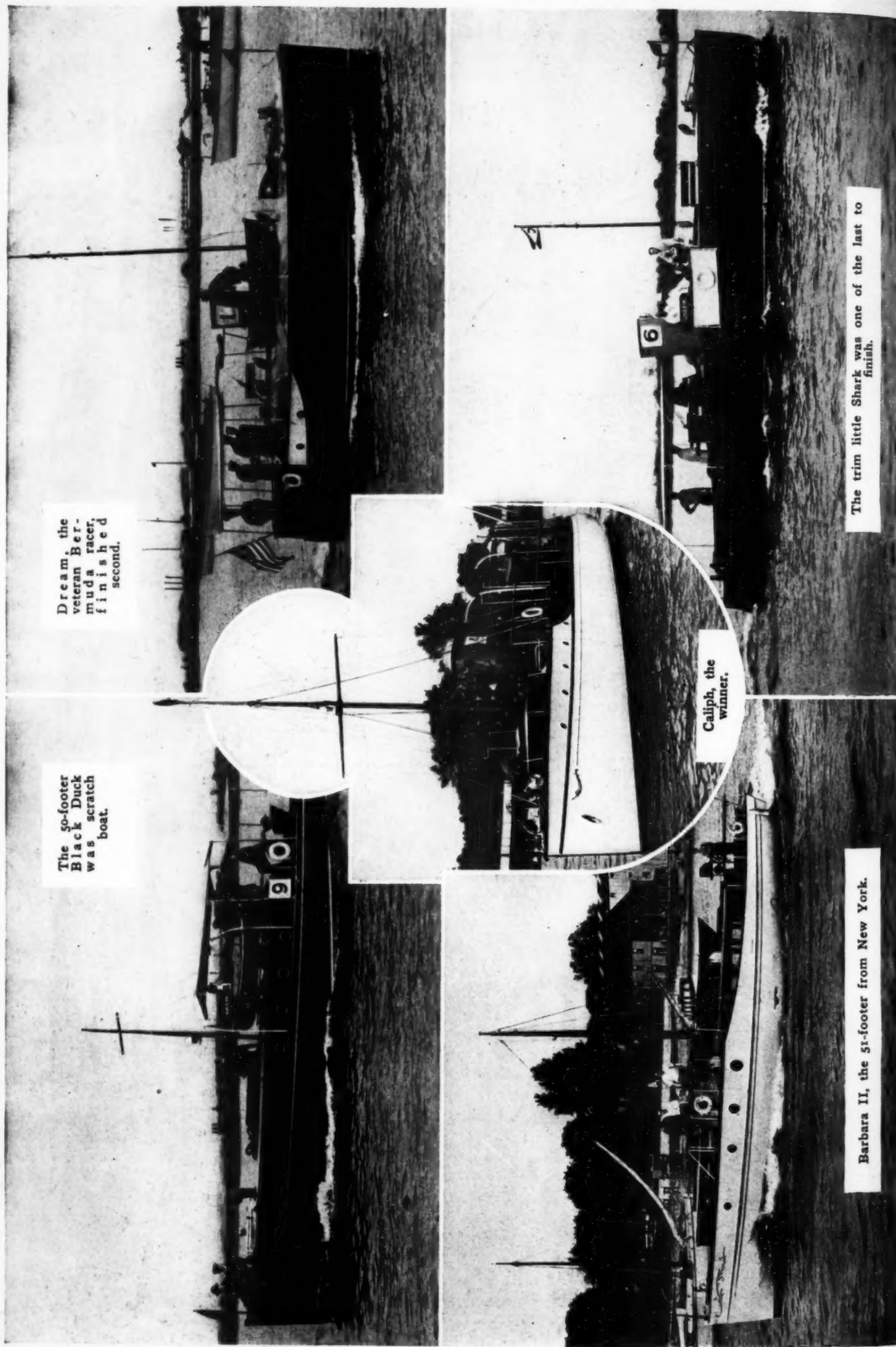
The Bartholdi Statue in New York Harbor.



Jersey Central Ferryboat.

- KEY**
- GASOLINE STA.
  - WATER STA
  - BOAT SHOP
  - ICE HOUSE
  - RESTAURANT
  - HOTEL
  - PROVISIONS
  - ▲ GOOD ANCHORAGE
  - ◆ BLACK BUOY
  - ◆ RED BUOY
  - ◆ RED & BLACK BUOY
  - ▲ LANDING

# The Philadelphia Corinthian Club's Race to Overfalls Lightship and Return.



The 50-footer Black Duck was scratch boat.

Dream, the veteran Bermuda racer, finished second.

Caliph, the winner.

Barbara II, the 51-footer from New York.

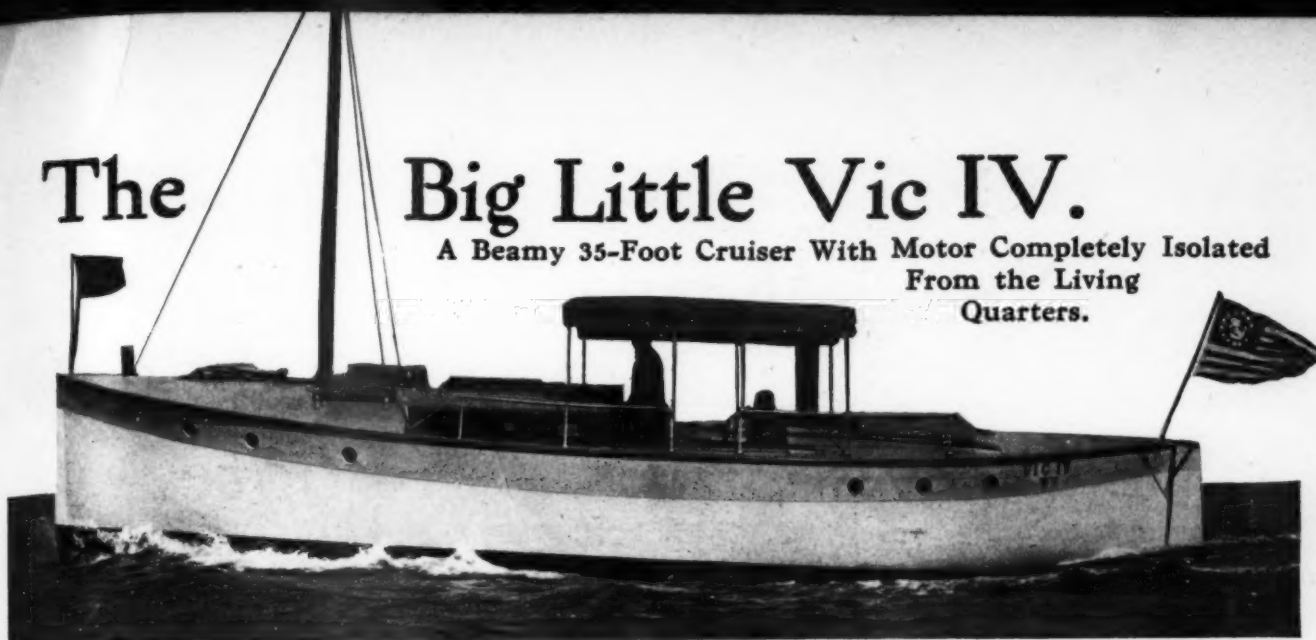
The trim little Shark was one of the last to finish.

The first long distance race of the season was the handicap event of this Philadelphia club, under the new A. P. B. A. rules, to Overfalls Lightship in the mouth of Delaware Bay and return. Further details will be found in this issue under the head "Among the Clubs."



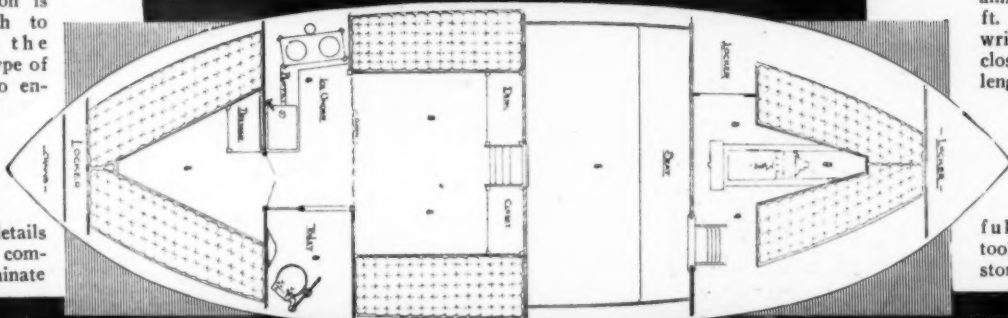
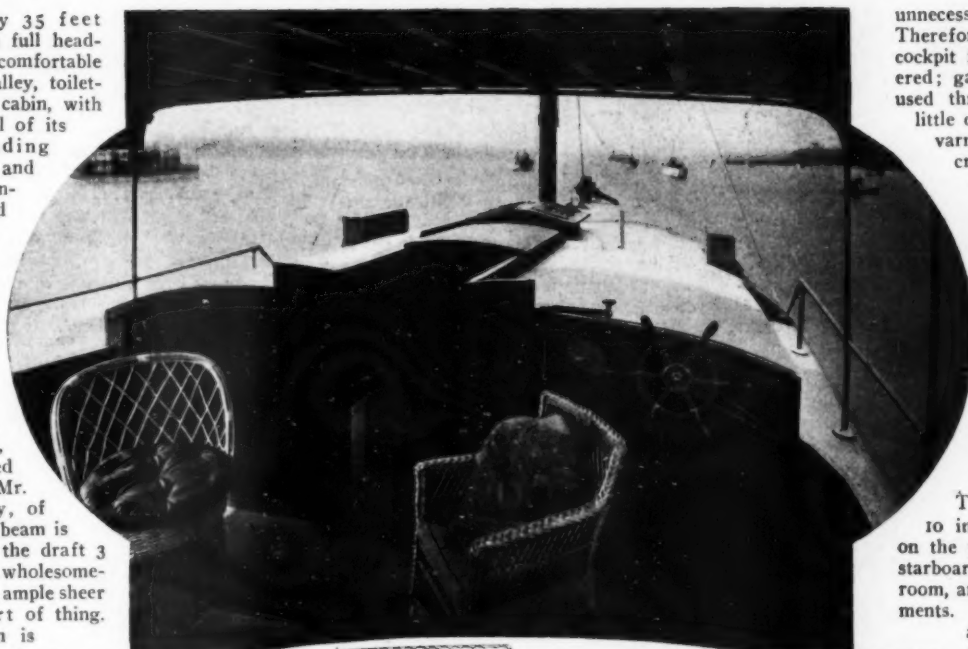
## Big Little Vic IV.

**A Beamy 35-Foot Cruiser With Motor Completely Isolated From the Living Quarters.**



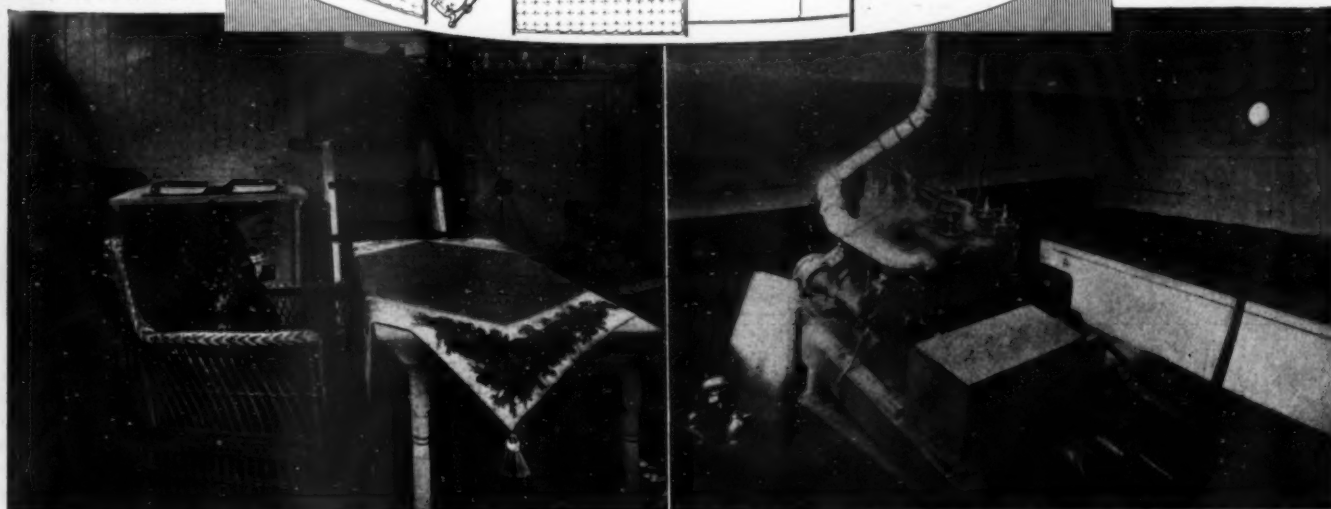
**Vic IV is a novel and exceptionally roomy 35-footer.**

**A** BOAT only 35 feet long with full headroom, a comfortable stateroom, a fine galley, toilet-room and main cabin, with the motor and all of its equipment, including gasoline tanks and lighting plant entirely separated from the living quarters by a watertight bulkhead with a big comfortable cockpit, certainly sounds interesting. The Atkin-Wheeler Co., Huntington, L. I., recently delivered such a boat to Mr. Carlton Nagely, of New York. The beam is 11 ft. 6 in., and the draft 3 ft. 6 in. There is wholesomeness in every line, ample sheer and all that sort of thing. The construction is heavy enough to withstand all the trials that this type of cruiser is apt to encounter, and the finish plain, no attempt having been made to create a fancy floating palace. All details are planned for comfort, and to eliminate

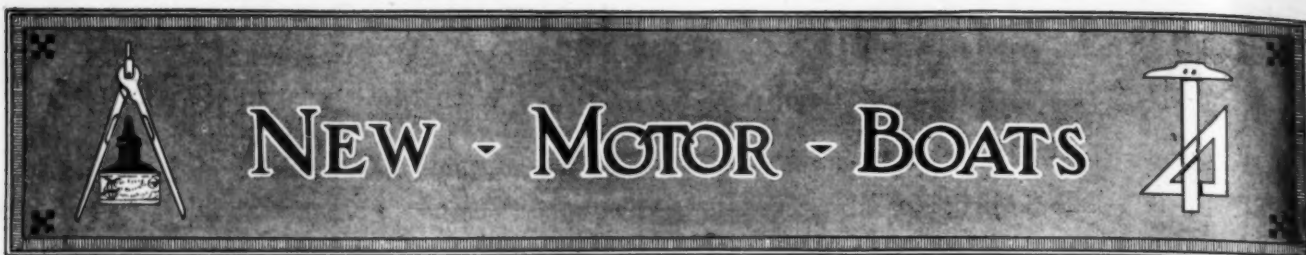


unnecessary cost of up-keep. Therefore, the decks and cockpit floor are canvas-covered; galvanized fittings are used throughout, and very little of the joiner work is varnished. Still, the craft looks well and is comfortable. The interior is finished in flat white with only enough mahogany trim to give a pleasing appearance. The stateroom has two berths, each 6 ft. 2 in. long with locker space under, and a small dresser filled with three drawers is forward. The headroom is 5 ft. 10 in. The toilet-room on the port, and galley on starboard side aft of stateroom, are good sizable apartments. The main cabin is amidships, and has 6 ft. 3 in. headroom, a writing deck, clothes-closet, and two full-length 2-ft. 6-in.-wide berths. This is a real livable room.

The motor-room is aft and has two wide full-length berths, tool lockers and storage space.



The main cabin is a big, comfortable, well-ventilated room. The after cabin is devoted to the engine, with room to sleep two people.



## A Heavily Built 45-Footer.

A Design for a Seaworthy Type Which, With a 24 H. P. Heavy Duty Motor, Will Give a Cruising Speed of 10 Miles Per Hour.

THE accompanying plans show the arrangement of a very seaworthy type of motor boat recently designed by J. Murray Watts, of Philadelphia, for Carroll C. Cobb, of Toledo, Ohio. The frame of this boat was built by the Niagara Motor Boat Company of North Tonawanda, N. Y., and the planking and interior joiner work done under the supervision of Mr. Cobb himself in Toledo. The motive power is a 24 h. p. heavy duty Buffalo which turns a 28 x 36 three-blade wheel 350 revolutions, making a most reliable, slow speed outfit for a cruiser which will be used on long trips and is expected to stay out in heavy weather. Owing to the very solid construction of the boat, the weights throughout are considerably greater than the average 45-footer, so that the moderate speed of ten miles is all that is expected. The arrangement plan shows a large main

saloon with direct access to a toilet on the port side and a galley on the starboard side. Amidships is the engine room with bunks in it for two men with plenty of headroom for cranking the engine, etc. Forward is a state-room with two berths and a large wardrobe and locker store room.

The boat is steered and controlled from the bridge deck. The gasoline tank is carried on this bridge deck. This tank is boxed over and covered with a cushion so that it can be used as a seat.

This boat is beautifully finished in mahogany and is a good example of the sea-going type of small cruiser.

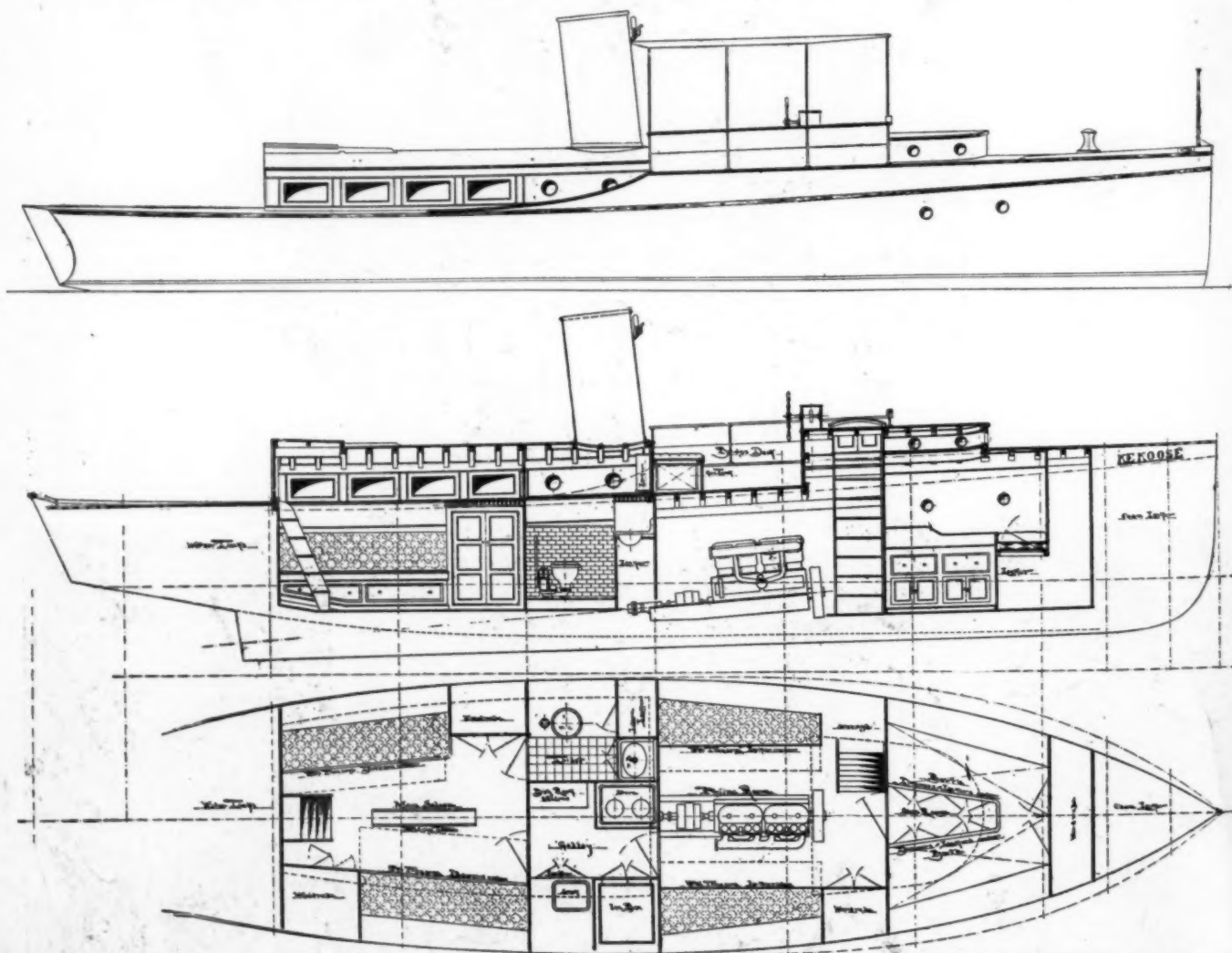
The main saloon contains two extra wide transom berths which will provide sleeping accommodations for four persons if necessary. Locker space is provided under both transom berths, access to which is from the front of

the transoms. Two large wardrobes in the main saloon provide a large amount of storage space. A folding table in the center of the cabin provides a dining space below decks.

Entrance to the main cabin is from the after deck, the companionway being in the center.

The galley amidships is of ample size and contains a large amount of locker space for the storage of provisions, dishes, etc. The ice box is on the starboard side and is of ample size for a long cruise. The sink occupies the remainder of the starboard side. A two-burner alcohol stove is placed amidship in such a position that it will be affected the least by the vessel's motion.

Entrance below decks is also possible by means of the forward companionway, located forward of the bridge deck, leading down to the forward part of the engine room.



Design of a 45-footer with 10 ft. 8 in. beam and 3 ft. 6 in. draft, which will provide accommodations for six persons and give a good turn of speed with moderate power.



# The 65-Footer, Lurline.



**T**HE 65-footer Lurline was designed by Chas. L. Seabury for George C. Campbell, and was launched recently at the yards of the Gas Engine & Power Company & Chas. L. Seabury & Company, Consolidated. She is a twin-screw, 65-footer of 12 ft. beam and 4 ft. draft with a guaranteed speed of 13 miles an hour.

In type, the new boat is considerably different from the usual boat of her size. The stem is slightly curved and the stern is of the overhanging type, flared at the waterline, that is employed frequently in the larger Seabury yachts and motor craft. The sheer is pleasing and apparently unbroken from stem to stern, as the raised sides amidships are of mahogany, giving the appearance of a trunk but offering much greater deck space and room below. This raised deck continues aft as a trunk, and there are flush decks forward and aft. The deck house is higher than usual and is amply lighted by large glass windows. This structure protects the bridge deck just aft of it.

The arrangement below consists of forecabin, followed by sunken

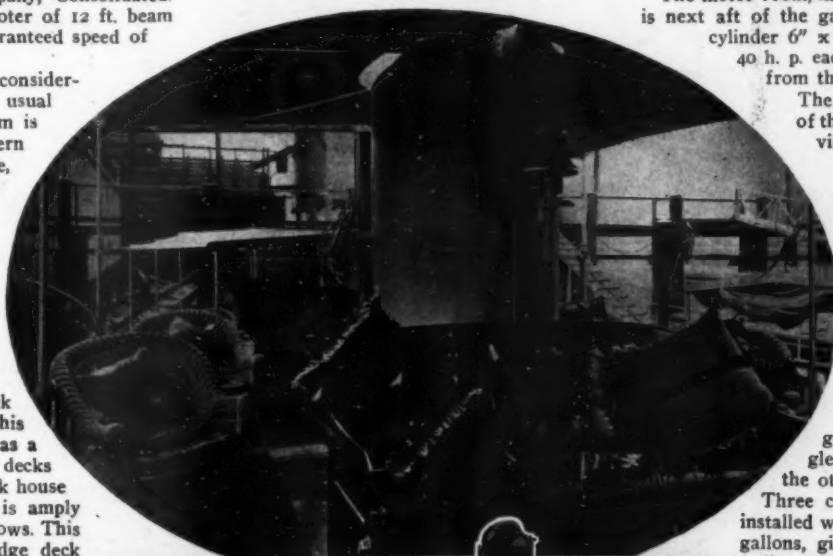
## A Seabury Twin-Screw Cruiser With Several Features That Are "Different."

deck house with storage space beneath. The house is used as a dining saloon and will seat ten people. It is in easy communication with the full width galley just aft of it.

The motor room, inclosed in steel bulkheads, is next aft of the galley. There are two 4-cylinder 6" x 6" Speedway engines of 40 h. p. each. These are controlled from the bridge.

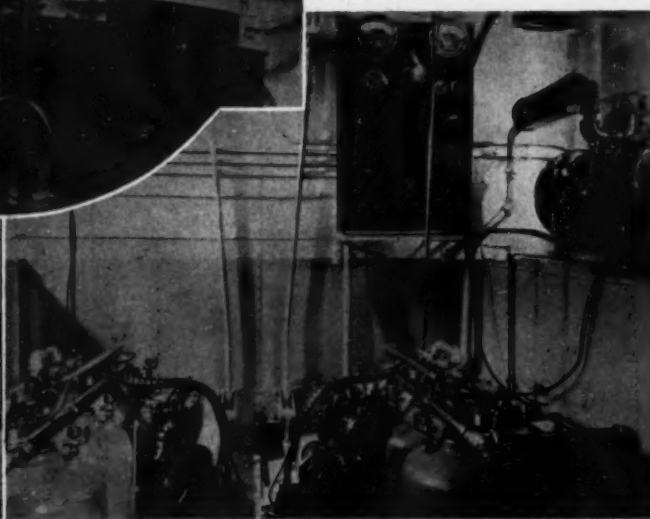
The owner's stateroom is aft of the engine room and is provided with a berth on either side, bureau between and two wardrobes aft. The lobby is next aft with a companionway to starboard leading to the main deck. Partially beneath this is the bathroom, with tub and the usual fixtures and a transom seat is opposite the companionway. The aftermost compartment is the guest's room with two single berths and finished like the other rooms, in mahogany.

Three copper gasoline tanks are installed with a total capacity of 400 gallons, giving the boat a cruising radius of 500 miles. A 150-gallon tin-lined, copper water tank is so installed that it may be filled from deck.

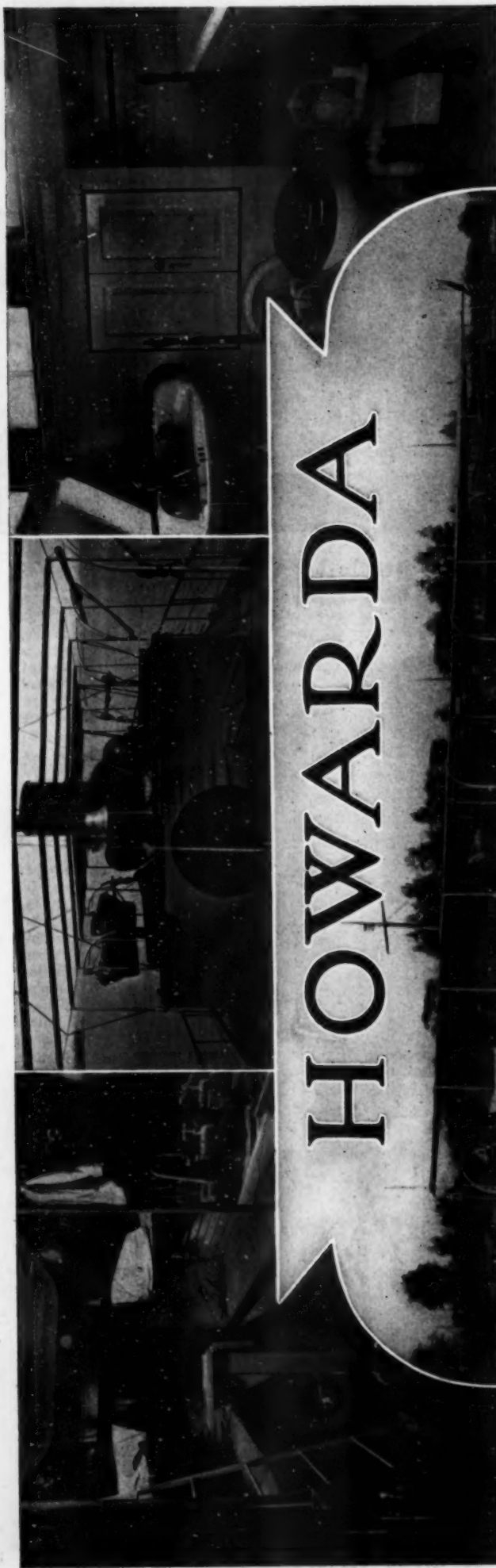


The deck house is provided with exceptionally large windows.

Above, two views looking aft and forward from amidships.



The two 40-h.p. Speedways and the auxiliary lighting plant.



# HOWARDA

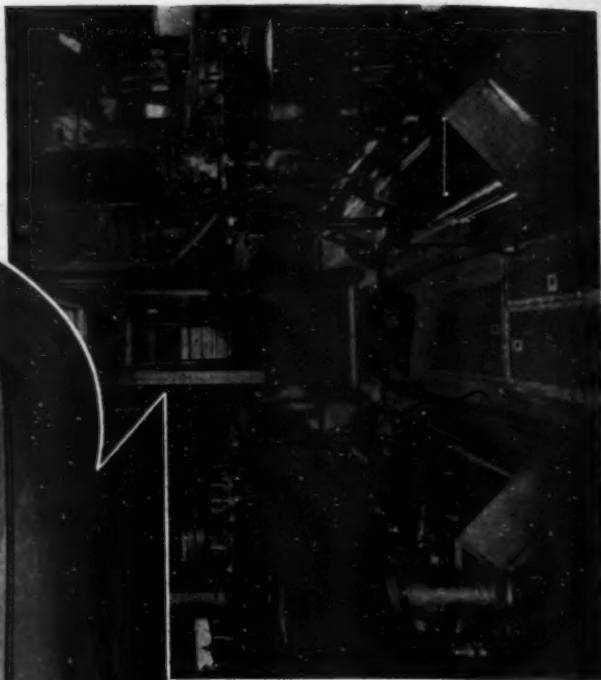
The comfortable fore-castle and galley.

The well-equipped bath room.

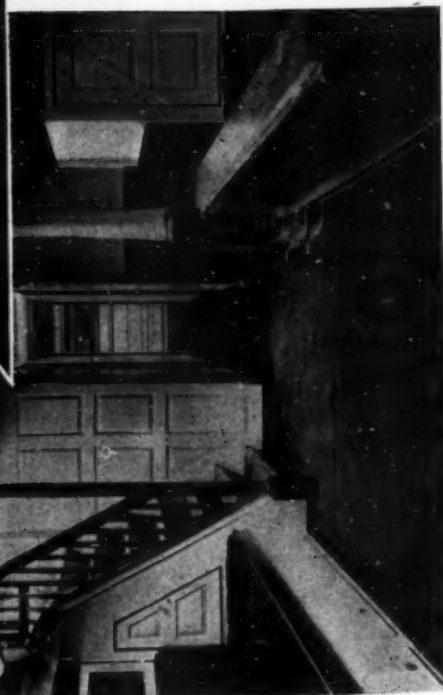
## Specifications of Howarda.

Length Over-all.....	72 feet
Beam .....	16 feet
Draft .....	4 feet
Least Headroom.....	7 feet
Power Plant.....	Two 37-H.P. Standard motors
Owner.....	Howard S. Kerner
Designer.....	J. Murray Watts
Builder.....	Essington Shipbuilding Co.

(See description on opposite page.)

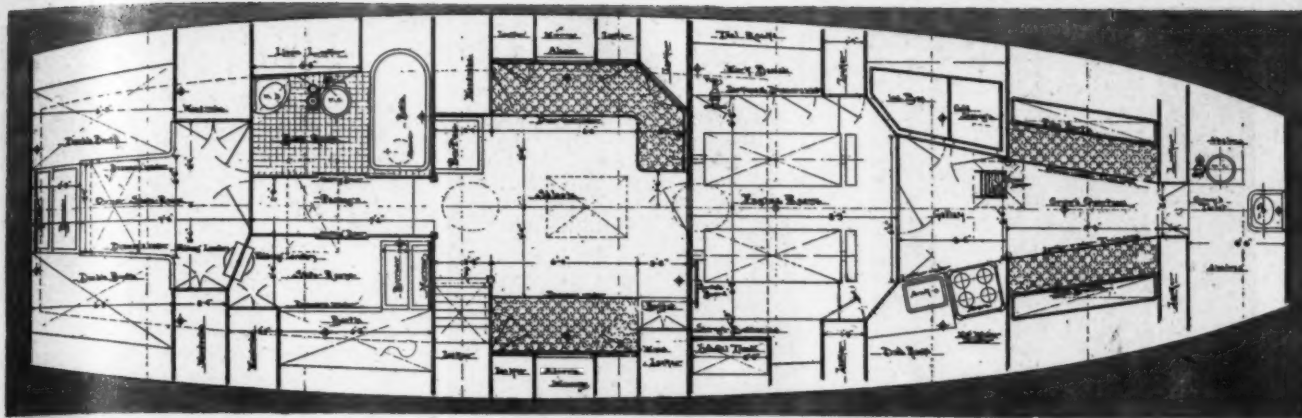


There is full headroom beneath the bridge where the two 37-h.p. Standards are installed.



The main saloon looking aft. Note the open fireplace.





Throughout her interior there is 7 feet headroom and this with her broad beam makes Howarda an exceptionally comfortable boat.

## Howarda, a Florida Cruiser.

**H**OWARDA was designed for Mr. Howard S. Kerner, by Mr. J. Murray Watts, of Philadelphia, and represents the last word in comfort for a shoal draft cruising motor boat. As the owner will use her mostly for cruising in Florida waters, the draft has been kept under 4', while the generous beam of 16' gives unusually fine accommodations below.

The arrangement plan herewith shows a companionway leading from the side deck into the big saloon with the passageway to the owner's stateroom. On one side of the passage is the bathroom, and on the other, a guest's stateroom. The engine-room is forward, and in it are installed two 37-h.p. Standard motors and an auxiliary plant for pump-

**A Comfortable, Well Ventilated 72-Footer Designed to Meet Conditions in the South.**

(See Photographs on Opposite Page.)

ing and lighting. The galley runs the full width of the boat and gives lots of room. The crew's quarters and crew's toilet-room are forward. The finish of the owner's quarters is of mahogany with decorations in the Gothic style. The crew's quarters and engine-room are in plain paint. The finish on deck is East India teak throughout.

The boat is steered and controlled from the

bridge deck forward. There is full headroom under this bridge-deck, the least headroom in the cabins being 7'. The engine-room and galley are ventilated by the forward stack, which takes the exhaust from the engines and the galley smoke-pipe. The after stack ventilates the main saloon in heavy weather when the windows and skylights have to be battened down. This stack also takes the smoke-pipe from the fireplace in the saloon. The two stacks on a boat of this size not only improve the ventilation, but give the yacht a very trim appearance. The long, low, white topsides relieved by the polished teak of the deck-houses, set off with the two funnels, make her one of the handsomest boats turned out this year.

## A Tender for a Sailing Yacht.

**T**O BE successful as a tender to a racing yacht a motor craft must be able not only to tow her protegee to and from the course, but must be able to house her crew, for many American racing yachts haven't sufficient accommodations for the large crew that is required to handle them. Besides, the tender must carry extra spars, rigging and sails, for a yacht, stripped for action, has no room for extra equipment.

The design below, by Messrs. Swasey, Raymond & Page, is for such a craft, and will be found interesting. She is 20 feet

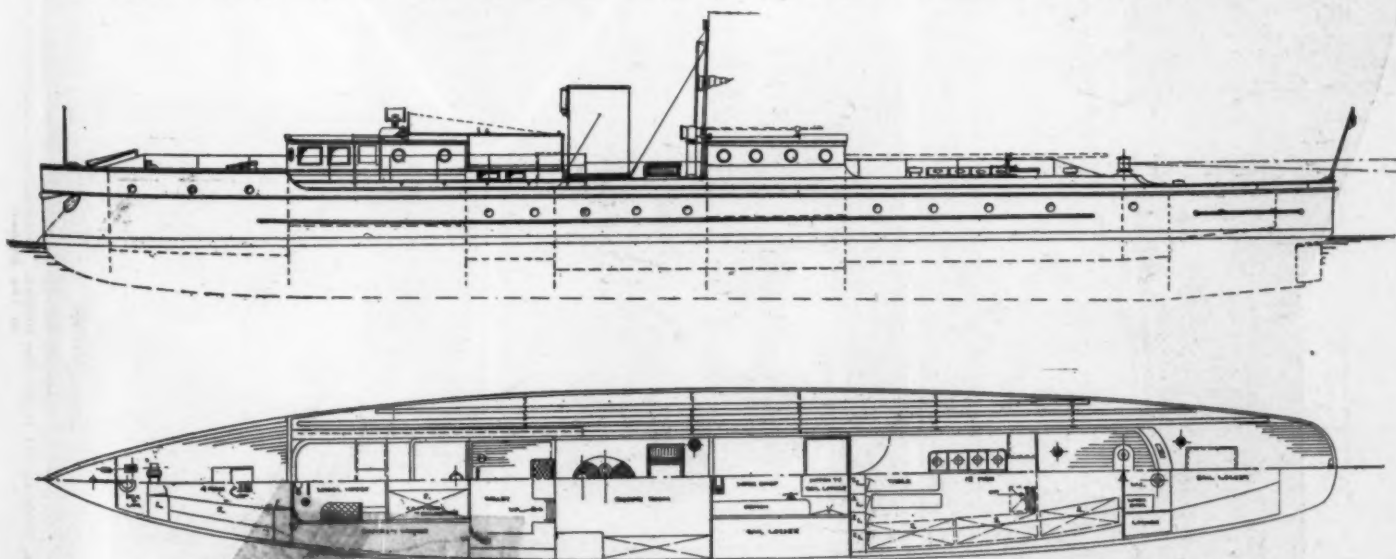
**The Design of a Craft to Tow and to Carry the Extra Spars and Equipment of a Racing Yacht.**

overall by 13 feet beam, and her draft is 4 feet 6 inches, in order to give her wheels a good grip on solid water when towing.

The design calls for two 70-h.p. gasoline engines of the heavy-duty type, which should give the boat a fair speed, although, of course,

this is not the principal consideration. The interior is devoted to work-rooms and crew's quarters, and the owner, who is frequently the least important feature of a sailing yacht, is crowded into the deck-house. The spars are carried in chocks on deck, as shown.

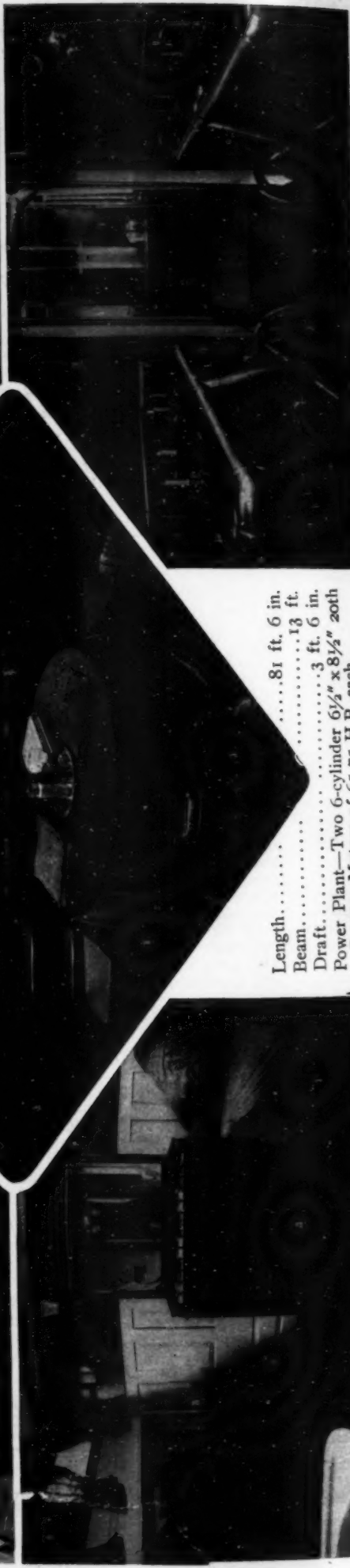
The design is an interesting example of the many types of specialized motor craft that are being turned out for both business and pleasure. She is designed especially for the service in which she will be engaged and is not merely an adaption from a cruiser design as would have been considered good enough in the past.



The interior is devoted to the work room and crew's quarters and the extra spars are carried on deck.



The long, low lines of Minnie W give the appearance of speed, and her two 65-75 h.p. 20th Century motors back it up.



Above, the bridge deck and forward companionway. Below, the gallery, looking aft from the engine room.

Length.....81 ft. 6 in.  
 Beam.....13 ft.  
 Draft.....3 ft. 6 in.  
 Power Plant—Two 6-cylinder 6½" x 8½" 20th Century Motors of 65-75 H.P. each.  
 Speed.....15 miles per hour  
 (See description on opposite page)

Above, looking aft from the bridge. Below, the comfortable stateroom of the owner.



# Minnie W. III, an 81-Footer.

THE 81-foot twin screw cruiser Minnie W. III, was designed and built by the New York Yacht, Launch & Engine Company of Morris Heights, N. Y., and was delivered recently to her owner, Mr. L. C. Warren, of New York City.

As will be seen by the photographs on the opposite page, the appearance of the boat gives the impression of speed and on her trial trip she justified this, doing better than 15 miles an hour. Her two 6 cylinder 6½" x 8½" Twentieth Century motors develop 65 to 75 h.p. each and drive 44" pitch wheels at 420 r.p.m., although this engine speed may be increased somewhat.

Below decks the arrangement is as follows: Fore peak 6' partitioned by watertight collision bulkhead. Crew's quarters 9' with crew's toilet and sleeping arrangement for four men. Aft of this is a 12' deck house with floor raised high enough to allow seeing out the windows

(See photographs on opposite page.)

when seated. From the after end of this room a companionway leads up on the starboard side to the bridge deck with stairs on port side leading to engine room with sideboard between. Directly aft of this is the engine room and gasoline compartment 12' long.

The engine room is complete with work bench, independent electric light outfit, toilet and two hinged berths. The gasoline is in two tanks of 250 gallons capacity each, with a passage between. The tanks are set up in watertight compartments with scuppers leading overboard and tanks set in pans. Aft of this is the galley 4' fore and aft by the full width of the boat, complete with ice box to fill from deck, heating plant, 6 burner shipmate range and sink. The dining saloon is aft of the galley 8' 6" long with extension sofa seats on each side with a buffet on the forward bulk-

head. On the starboard side of the passage leading from the dining saloon to the owners stateroom is a stateroom 6' 6" long with bureau, berth with drawers under fitted with spring and mattress and locker under companion stairs leading from deck. On the port side of passage is bath room 6' 6" long complete with 4' 6" bath tub, 4" pump closet and large wash basin.

The owner's stateroom is located directly aft 8' long with a double berth on the port side and extension sofa on the starboard side with a bureau between on the after bulkhead and locker on each side forward. Four copper water tanks of 250 gallon capacity are placed aft of the owner's stateroom.

The yacht is steered and the engines operated from the bridge deck over the engine room. The principal dimensions are length overall, 8' 6"; beam, 13' and 3' 6" extreme draft.

## A 46-Footer for Lake Michigan.

THE 46-footer shown in profile and plan below was built this spring to the order of Mr. Wm. H. Samson, of the Columbia Yacht Club, Chicago, by the Weckler Boat Company. Florence III as she is called, is the third boat of Mr. Samson's built by the same company.

On this 46-ft. boat having a beam of 11 feet and a draft of 3' 5" comfortable accommodations have been secured for eight persons in individual berths. The lay-out includes a chain locker forward, followed by a 40 gallon water tank and two clothes presses. The forward stateroom is provided with a ventilator and four hinged port lights and has two single berths of good width with two drawers under each, and a small dresser. The main cabin has two transoms of extra width, which will be used as berths and the hinged backs of the transoms will be suspended by means of chains to form upper berths so that four people may sleep in this compartment.

**Florence III an Excellent Cruiser Built by the Weckler Boat Company.**

The bulkhead between the main cabin and galley is provided with a double door which folds back so as to be entirely out of the way, but when closed will keep all noise from those wishing to sleep forward although the boat is under way.

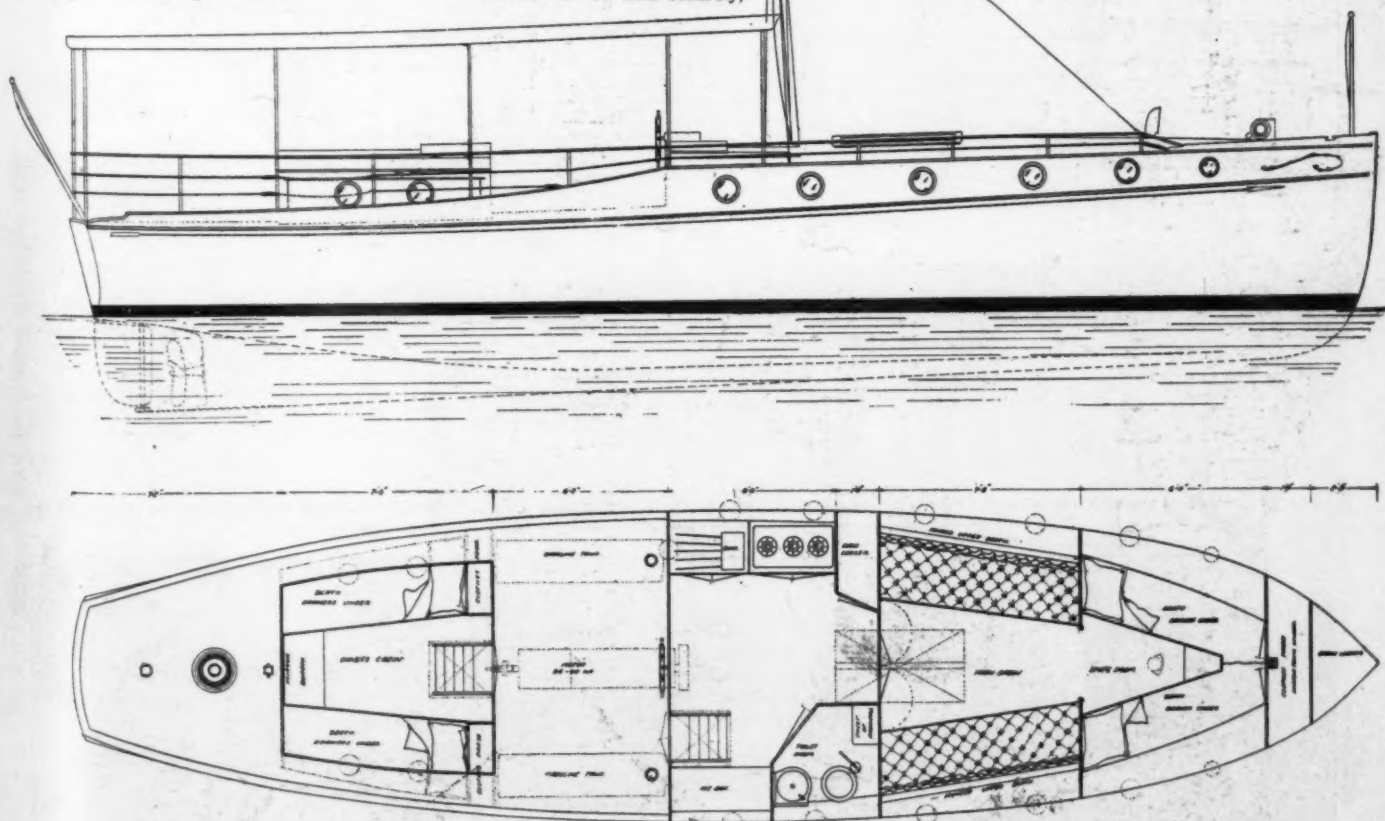
The galley is 7' 6" long and is very completely appointed. There is a large locker which is equipped with a special pocket to take the folding table from the main cabin. This folding table is of special design and steps through the floor into the keelson, so that it will be held securely,

although the boat is in rough water. A sink with two pumps, one from the fresh water tank, and one with an outboard connection, will be installed. In place of the oil stove shown, Florence III will be equipped with a four-hole Shipmate stove burning hard coal. There is a large amount of locker space under the sink and stove which is used to best advantage.

The toilet room is of large size and is fitted with running hot and cold water, pump closet, and a chest of drawers. There is also provided on the starboard side where it may readily be filled from the bridge deck a large refrigerator with separate food and ice compartments.

The motor is a six cylinder 40 h.p. heavy duty Van Blerck, fitted with reverse gear and Bosch high-tension magneto.

Under the bridge-deck, which has 4-ft. headroom, are also the gasoline tanks having a capacity of 200 gallons.



Florence III is an enlargement of the popular double cabin type of raised deck cruiser.

# A Runabout for Central America.

**M**ESSRS. KYLE & PURDY, of City Island, New York, have just completed the fast, shoal draft runabout shown below, from the designs of Messrs. Whittelsey & Whittelsey, of New York City.

Intended for express service on the shallow rivers of Colombia, Central America, the draft of the new boat had to be kept light, and, for this reason, the stern was hollowed in the form of a semi-tunnel, in which the screw turns, so that the draft of the boat is actually less than the diameter of the propeller.

The construction is of steel, the plates being  $\frac{3}{4}$ " in thickness and laid in longitudinal strakes, single-riveted. The deck is of white pine and the finish of mahogany.

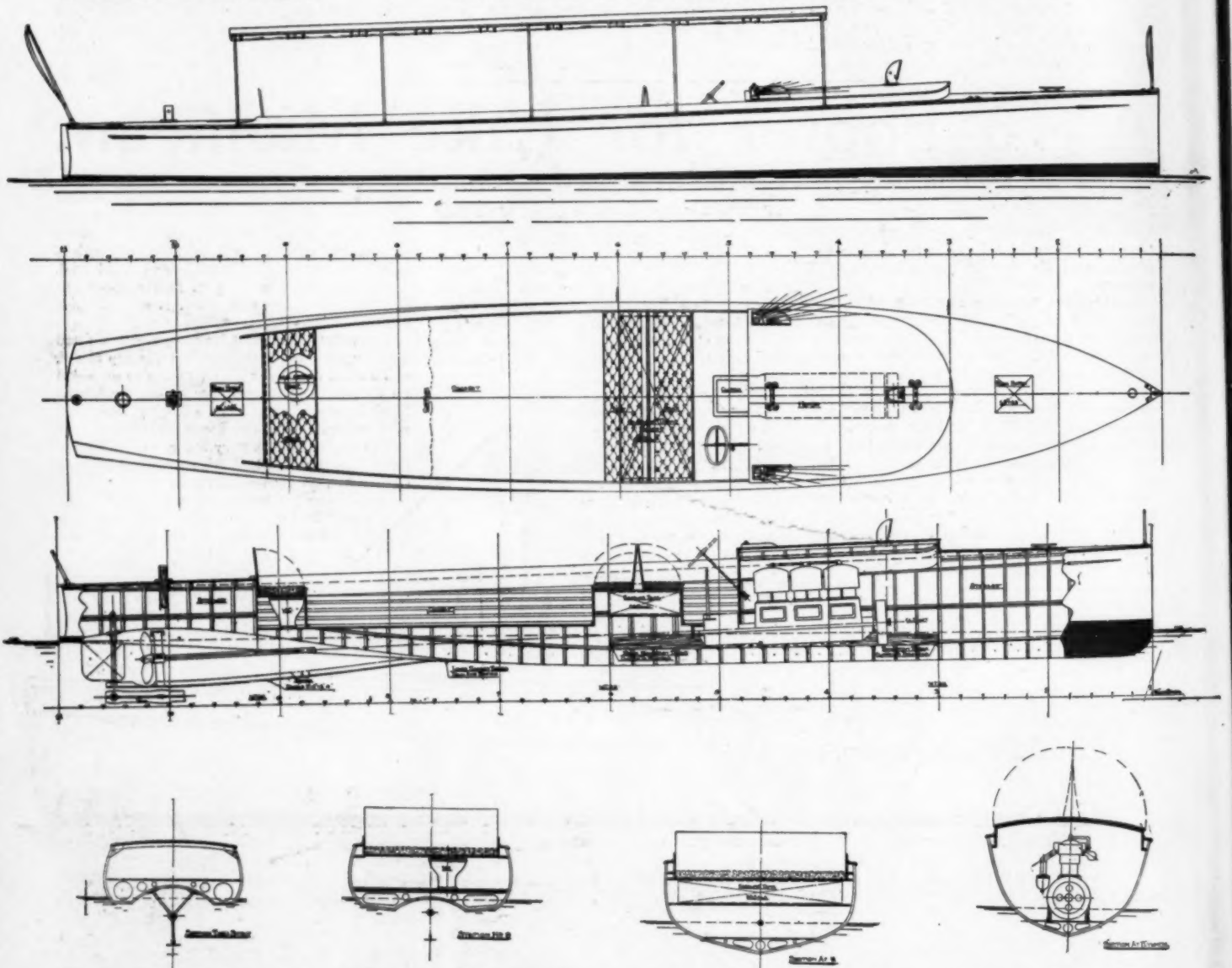
**Designed by Messrs. Whittelsey & Whittelsey for Use on the Shallow Rivers of Colombia.**

A six-cylinder type B, 55-65-h.p. Sterling motor with aluminum base is installed, the ignition and throttle controls being brought to the bulkhead as is usual in runabout practice. On her trial trips, recently, at City Island, the new boat proved herself fast and able. The designers have had considerable experience with craft of this type, besides their better-

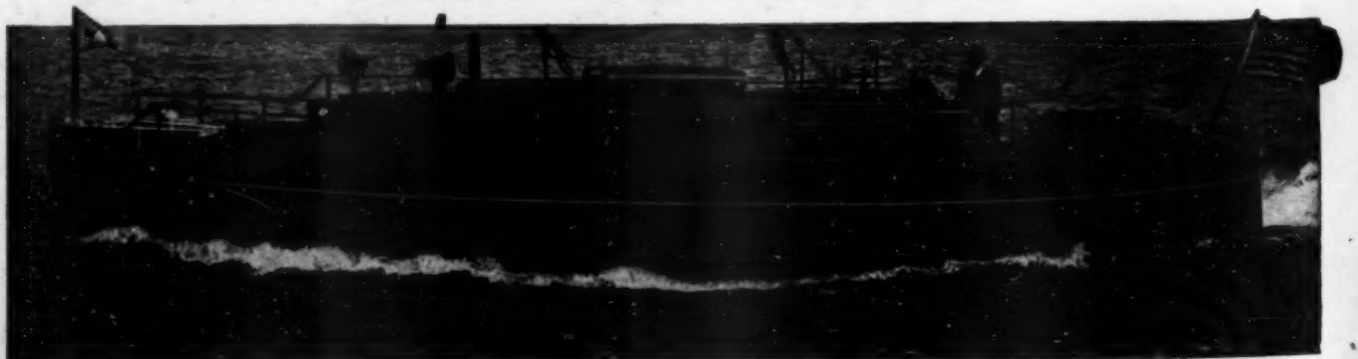
known motor yachts, and a number of their boats have been built for use in Central and South America, where the Thornycroft and other English craft have had such favor in the past. The steel motor boat seems to be popular in the tropical countries, and it is encouraging to note that our own designers are getting a share of the business.

The boat is provided with toilet facilities and side curtains so that it may be used for extended runs if necessary. The cockpit is long and left clear so that it will make an excellent sleeping compartment.

The dimensions of the new boat are: Length overall, 35 feet; beam, 6 feet, and draft, 1 foot, 6 inches.



The 35-foot steel runabout was designed with a semi-tunnel stern which permits of a draft actually less than the diameter of the propeller.



Cooter 11, a floating camp and cruiser, built and engined for J. L. Sturtevant, of Quincy, Mass., by Murray and Tregurtha, of South Boston.



# Vincent Astor's New 30-Miler.

VINCENT ASTOR is, among other things, a motor boatman, and, as might be expected, his latest boat is a fast one.

The 55-footer shown in the photographs was designed for him and Herman Oelrichs, by Tams, Lemoine & Crane, and built by the Gas Engine and Power Company and Charles L. Seabury and Company, Consolidated. It is of the high-speed express type, with three compartments.

**A 55-Footer of the Express Type Designed by Crane and Recently Launched at the Seabury Yard.**

and McCord force-feed oiler. The spark and throttle controls are brought to the after end of the engines, so that they may be controlled by one engineer. The motors are protected by the usual hinged corners.

The after cockpit is arranged for wicker chairs, and is protected by the forward one.

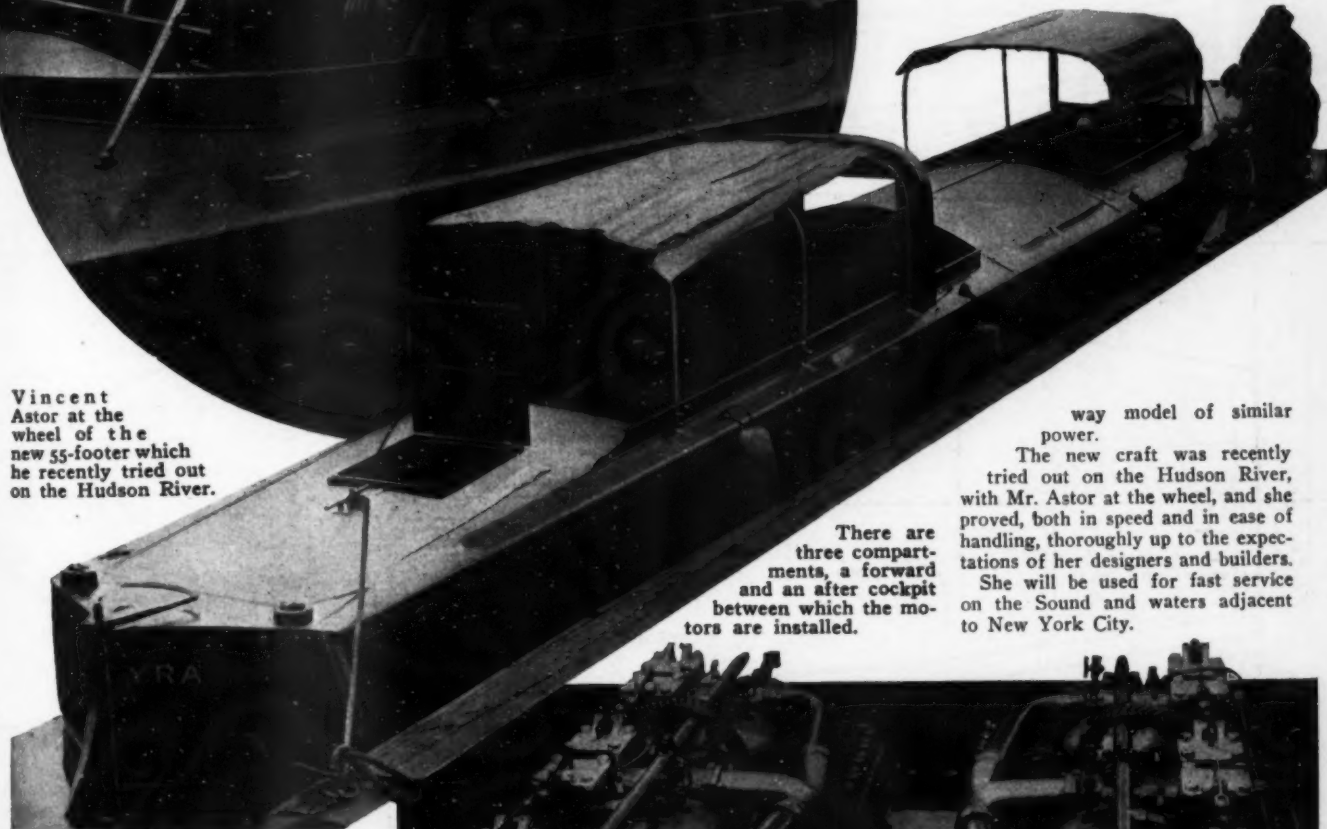
The gasoline tanks are in the forward compartment and beneath the after deck, with the feed pipe outboard for safety.

The new boat is of a type that has become popular in the last few years at the fashionable boating centers and for fast express service from suburban residences to the city. The accommodations, of course, are limited in the extreme as compared to the overall length, and the proportion of beam to length is very small for craft of the size. Several somewhat similar boats have been exhibited during the last few motor boat shows and have been admired as examples of the highest refinement of the art of boat building.

The photographs shown herewith give a good idea of the lean, speedy appearance of the craft, and of the power of the engines that drive her, the latter although of 150 h.p. each, being somewhat lighter than the regular speed-



Vincent Astor at the wheel of the new 55-footer which he recently tried out on the Hudson River.



There are three compartments, a forward and an after cockpit between which the motors are installed.

way model of similar power.

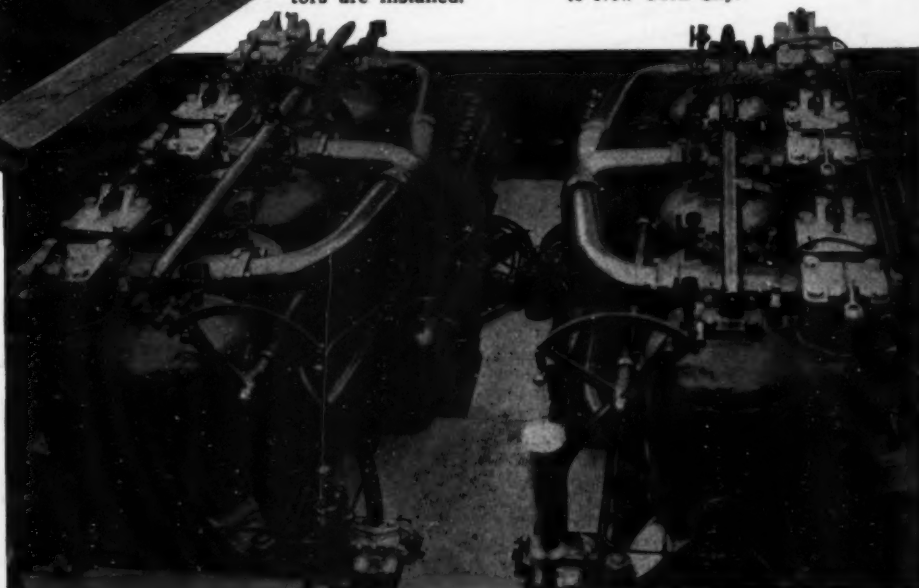
The new craft was recently tried out on the Hudson River, with Mr. Astor at the wheel, and she proved, both in speed and in ease of handling, thoroughly up to the expectations of her designers and builders.

She will be used for fast service on the Sound and waters adjacent to New York City.

partments, in the middle one of which the twin motors are installed.

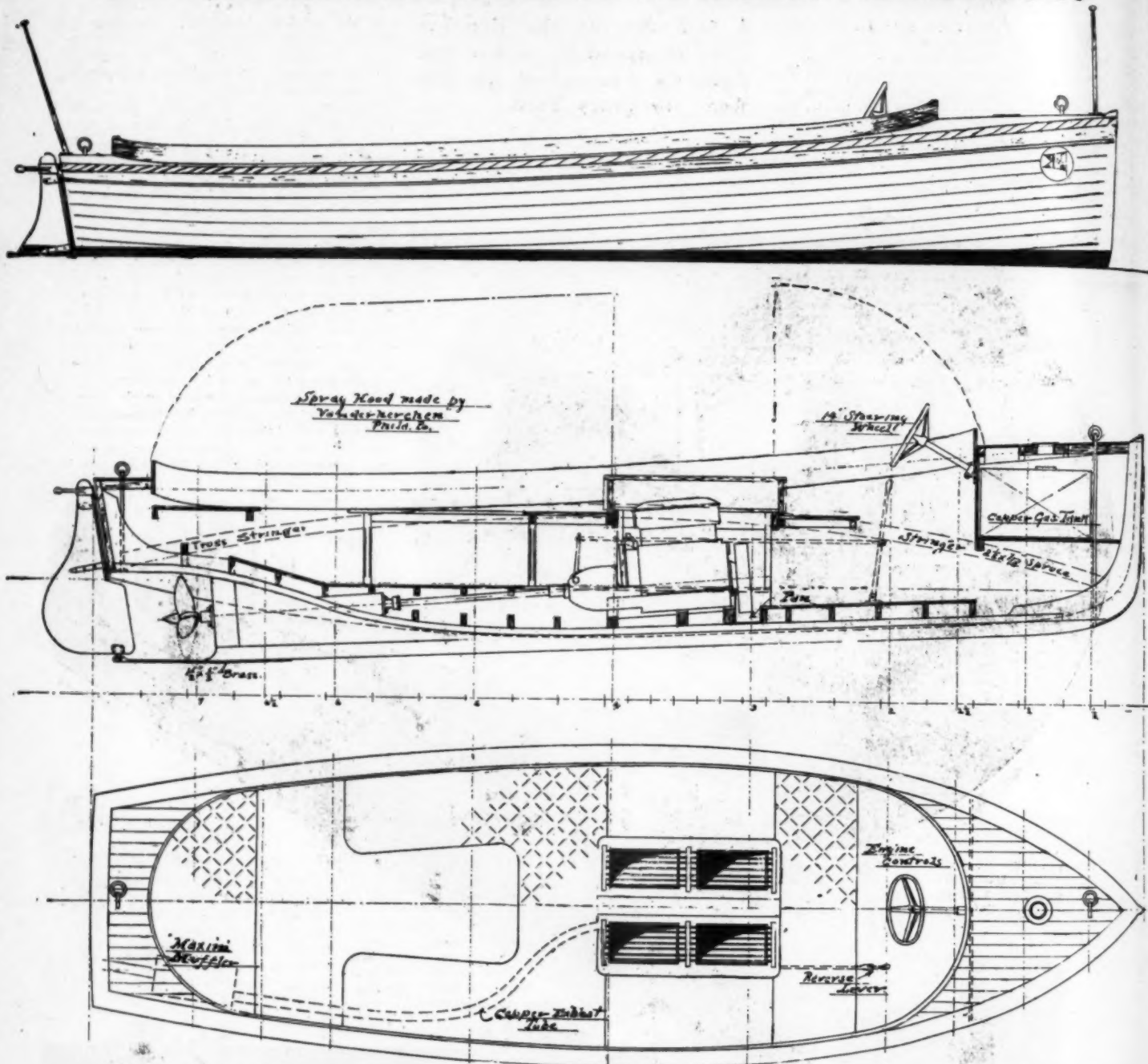
The forward cockpit is arranged with two thwartship seats, the forward one being really two seats of the automobile type, from which the boat is steered. Tachometers, a marine telegraph and bell signals are mounted at the bulkhead and communicate with the engineer's cockpit amidships. The forward cockpit is protected as is the after one, with a windshield and navy top. The seats are upholstered in pig skin.

The power plant consists of two 150-h.p. Speedway high-speed gasoline engines of 7-in. bore and 7-in. stroke. The engines are of somewhat lighter construction than the usual models, and are equipped with Bosch two-point ignition



The twin 150-h.p., light weight, Speedway motors are equipped with Bosch two-point ignition and McCord force-feed oilers.

# A Tunnel-Stern Yacht Tender.



In the 16-foot yacht tender the motor, a "Sterling Kid," is installed beneath a skylight as in foreign practice. The hull is lightly constructed and two stringers prevent its sagging when hung from the davits.

THE accompanying plans show a novel type of yacht tender to be carried on the davits of the 75' auxiliary schooner "Fareeda," now being completed for A. Van Rensselaer, of Philadelphia, at the yards of the Essington Ship Building Co., from designs by J. Murray Watts.

This little boat is 16' long, 4' 8" beam and draws only 13" of water, though the propeller is 15" in diameter. This result is obtained by hollowing out the stern in the form of a tunnel. As the boat will be used a great deal in Florida waters, the very shoalest draft possible was required, consistent with the size of the propeller.

The motive power is a 4 cylinder 4 cycle 10 h.p. Sterling engine especially built for this work and made very light by the use of aluminum and bronze wherever possible in the place of cast iron.

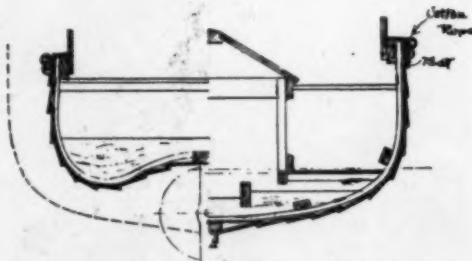
The hull itself is very light and very strong; the planking being white cedar and the trim throughout of teak. A

truss stringer of  $2\frac{1}{2}$ " by  $\frac{7}{8}$ " spruce keeps the boat from sagging when hanging on the davits.

Amidships is located the engine which is covered by a teak skylight. This skylight can be instantly removed and the engine be made absolutely accessible in every part. When the

skylight is in place the engine is thoroughly protected from rain and spray and the oiler and magneto are inspected through the glass. The boat is steered and controlled from the forward cockpit and the space on either side of the engine is used for carrying baggage, provisions or fishing kits.

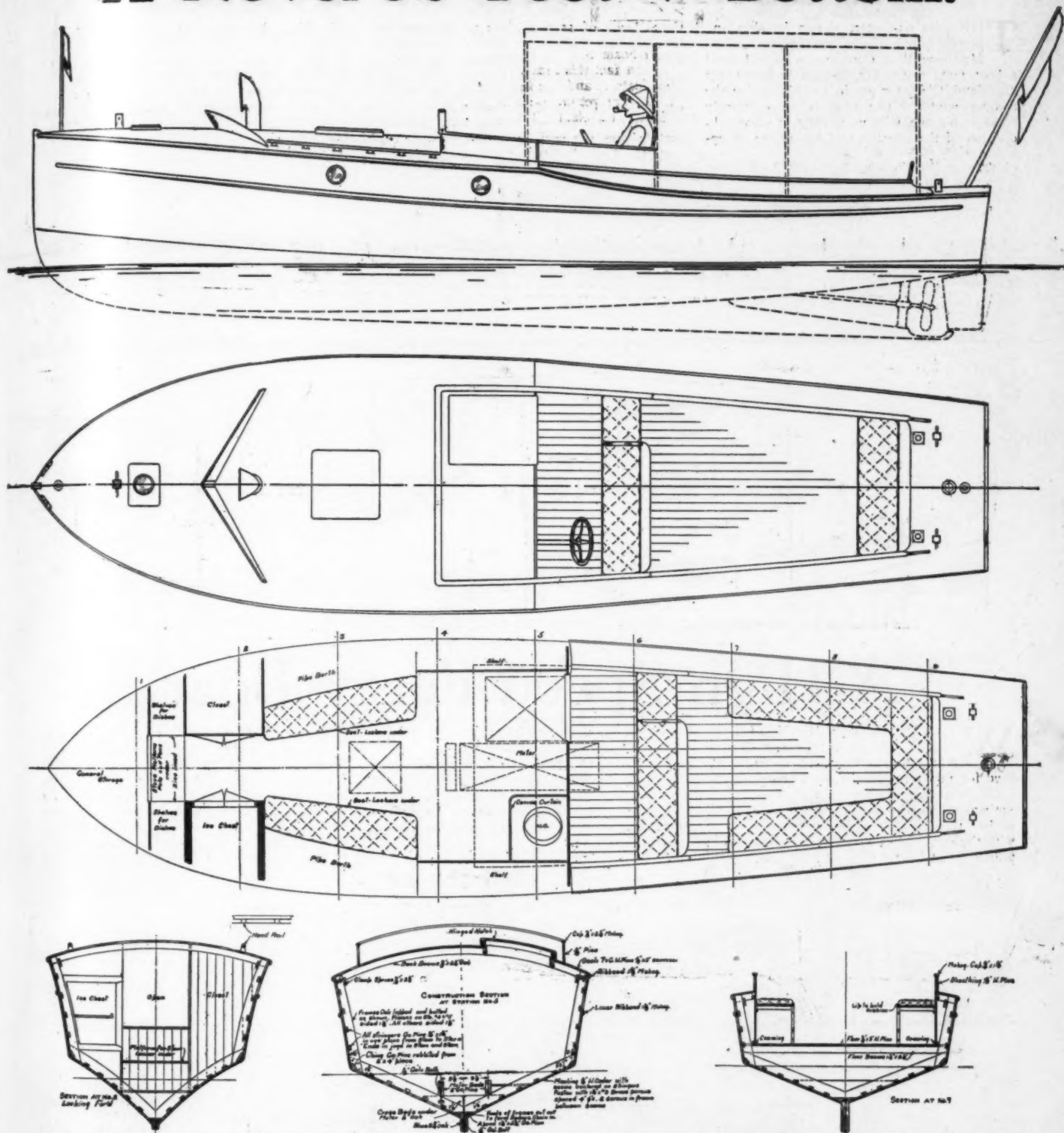
Owing to the good speed of the boat which will be about 13 miles, the freeboard has been kept very high. Folding spray hoods are arranged to protect the helmsman and passengers in case of rainy weather. It is rather an innovation to use a 4 cylinder 4 cycle engine in so small a boat, but the advantage of being able to start the engine with great reliability, and the quietness of running with four balanced cranks is a feature which will be appreciated by owners who have had trouble with their power tenders. A Maxim silencer is used as a muffler and as the engine makes no more noise than a sewing machine, quiet running will be assured.



The semi-tunnel stern decreases the draft to less than the diameter of the propeller.



# A Novel 30-Foot V-Bottom.



While practically a runabout, the new Hand V-bottom has cruising accommodations for two people. Note the interesting exterior arrangement.

**A**T THE shops of Wardwell & Goddard, Bristol, R. I., there is now building for a summer resident of Chatham, Mass., a very attractive fast V-bottom day cruiser, from plans by Wm. H. Hand, Jr., of New Bedford, Mass.

The new boat, while primarily a runabout, has cabin accommodations for two with necessary conveniences for over night shooting and fishing trips, for which the owner intends using the new boat. In lines, this new 30-footer is a development from Old Glory II, the remarkably successful little 24-ft. runabout with which Mr. Bonnell made the splendid trip

to Digby, N. S., and return last summer, which is fully described in recent issues of MoToR Boating.

The cabin arrangement, which is shown well by the plans, provides sleeping accommodations for two on pipe berths, with a convenient galley and toilet. The cockpit control seat is raised higher than is usual, and protected by a breakwater with khaki weather cloths, extending from aft end of the breakwater to the backboard of control seat. Under the control seat is the gasoline tank. The main cockpit floor is 4" lower than flooring under control seat and is arranged with fixed side and end

seat, with locker space below. The cockpit is water-tight and self-bailing. The location of motor and gasoline tank, approximately amidships, insures easy action in rough water and will allow of the boat being kept in perfect trim regardless of the quantity of gasoline in tank. The motor is a 40-h.p. four-cylinder Loew-Victor, installed with automobile control, and a speed of from 14-15 miles per hour is expected under service conditions.

In design, the boat is wholesome in all ways, and the full buoyant lines insure stability, comfort and dry going.

The dimensions are: Length overall, 30'; beam, extreme, 8', and draft, 2' 3".

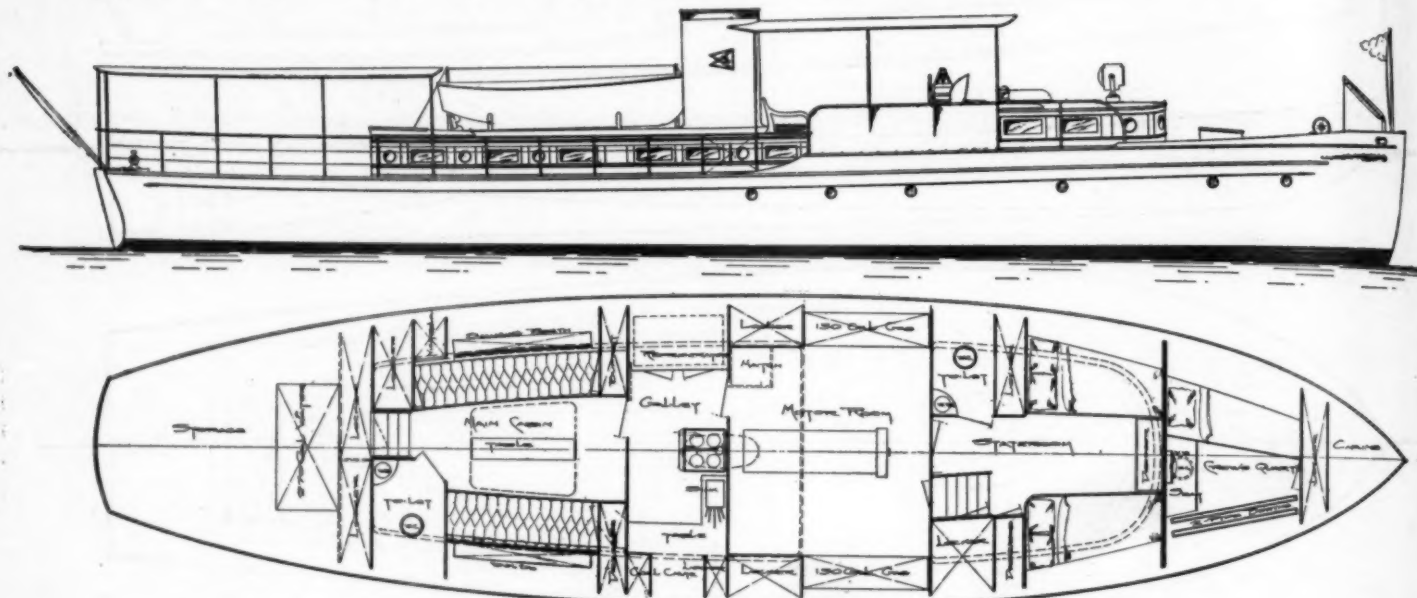
## A Comfortable 63-Footer.

**T**HE trim 63-footer, shown in plan and profile, is one of the latest designs of the Matthews Boat Company, who will build a boat from it for Mr. Lyman Lawrence, of Cleveland, Ohio, for use in Florida during the coming winter. The boat is an extremely comfortable one, with no attempt at great subdivision of the interior, and her rather excep-

tional beam of 15 feet gives ample room below. In fact this healthy beam is a commendable feature, and, we believe, one that the designers are getting back to.

The power plant will be a 60-70-h.p. gasoline engine and the fuel installation will have a capacity of 300 gallons, so that with this moderate power the cruising radius will be con-

siderable. A speed of  $10\frac{1}{2}$  to 11 miles per hour is expected. The boat is to be constructed in the excellent manner always followed by the Matthews Company. Long-leaf yellow pine will be used for planking below the waterline, and white cedar above, with oak framing, and houses and finish of mahogany.



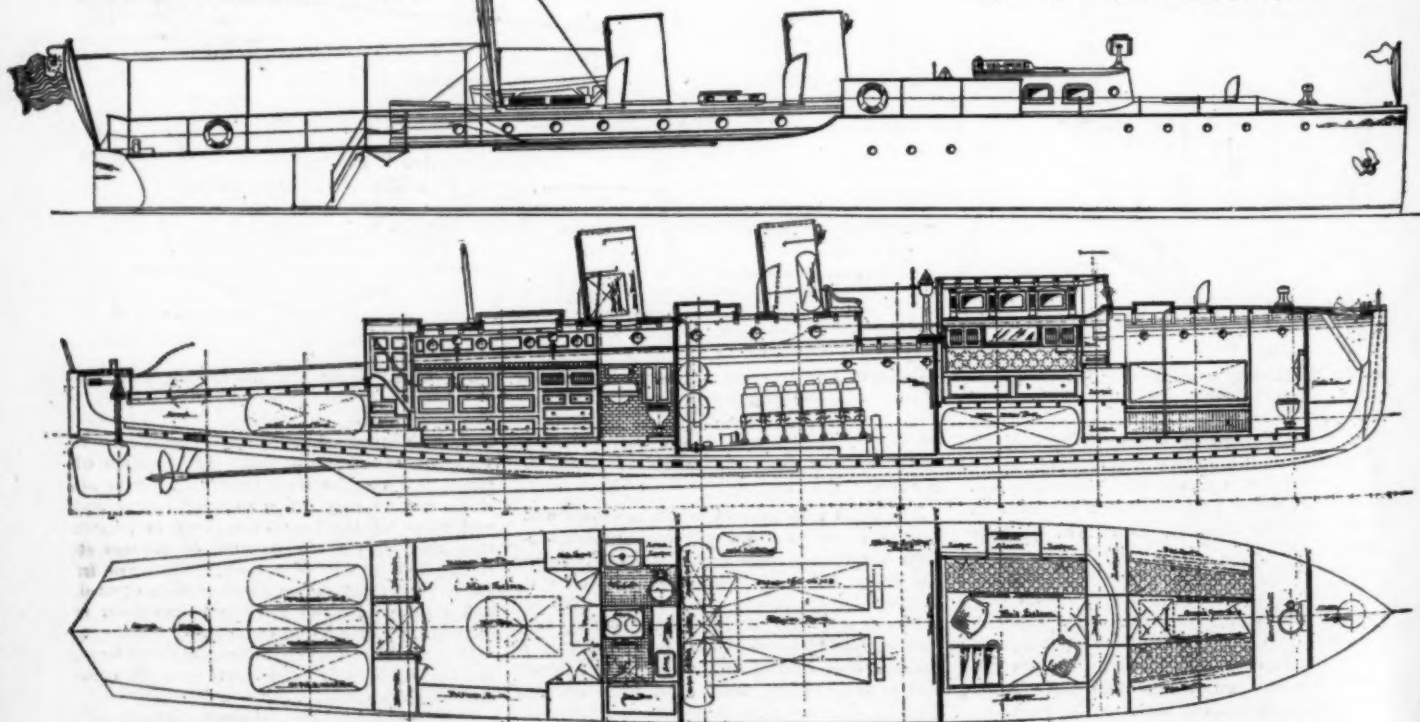
The 63-footer has the exceptional beam of 15 feet, which gives her lots of room both above and below deck.

## A High Speed Ferry Boat.

**W**ILLIAM EDGAR JOHN, of Philadelphia, has recently designed a 67-foot high-speed cruiser, to be used for fast ferry service, by a prominent Baltimore yachtsman. The problem was to adhere somewhat to the low, rakish torpedo boat destroyer type, with the speed of 25 knots to be maintained for at least 100 miles at a time.

The power plant consists of two six-cylinder  $7\frac{3}{4} \times 9$  craig motors, developing 225 h.p. at 800 r.p.m., and fitted with air-starting equipment. Four 40-gallon auxiliary gasoline tanks are hung on the after bulkhead of the engine room and the three main tanks of 140 gallons each are installed under the shallow cockpit aft.

The interior arrangement is clearly shown by the plan and inboard profile, and it will be seen that the underbody is of the type usually employed on fast craft with the long, flat run, and with the deadwood cut away for some distance forward of the propeller, so as not to obstruct the flow of solid water. The principal dimensions are: Length overall, 67 ft.; beam, 10 ft., and draft, 3 ft. 9 in.



The 67-foot fast ferry boat designed by Wm. Edgar John will be capable of maintaining a speed of 25 knots.



# Other

Described and Illustrated

# New

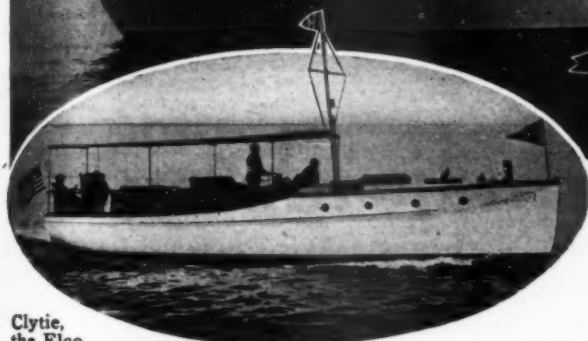
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# Boats.

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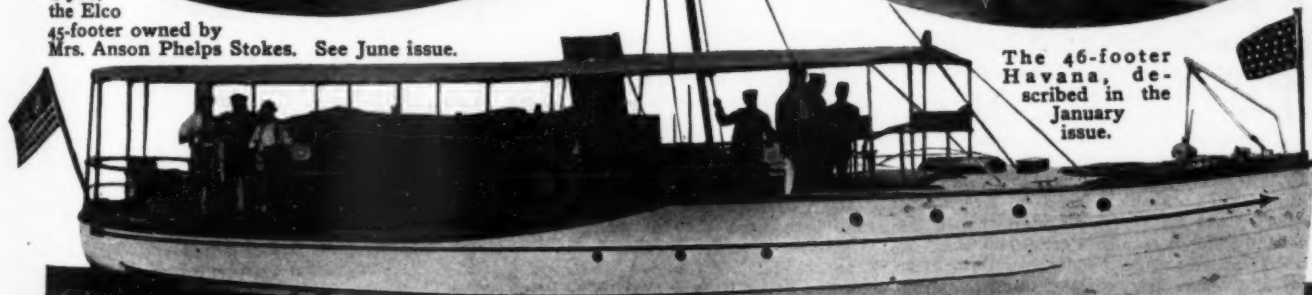
Tarantula, Wm. K. Vanderbilt, Jr.'s new 128-footer designed by Crane and built by Lawley.



Clytie, the Elco 45-footer owned by Mrs. Anson Phelps Stokes. See June issue.



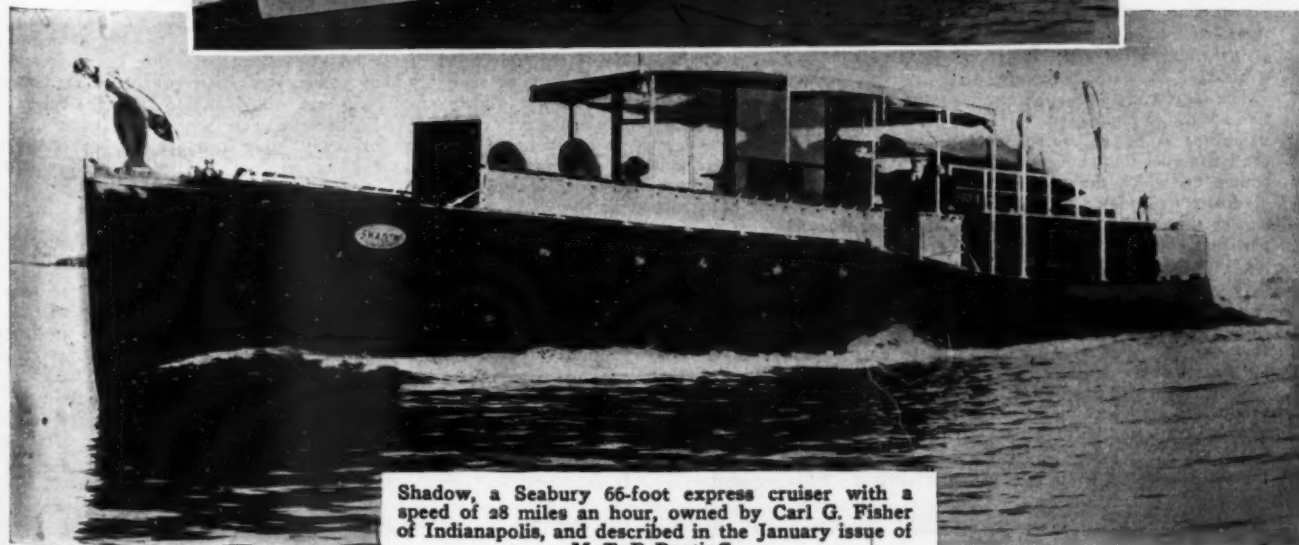
The 46-footer Havana, described in the January issue.



To right, Chipper II, a 65-foot 20th Century cruiser owned by Mrs. Alice D. Wetherill of Philadelphia. See the May issue.



Above, La Christina, the Welin bronze cruiser owned by Minor C. Keith and described in the February issue.



Shadow, a Seabury 66-foot express cruiser with a speed of 28 miles an hour, owned by Carl G. Fisher of Indianapolis, and described in the January issue of MoToR BoatinG.

## Questions for the September Contest:

1. Explain with sketches the best method of constructing a really watertight cockpit for a small cruiser, including scuppers to drain off the water.

*Suggested by Allan O. Gould, Portland, Me.*

2. Discuss the causes of unequal power in the cylinders, giving a systematic method for detecting and remedying.

*Suggested by C. E. Bradley, Fall River, Mass.*

3. Explain the cause of squatting and suggest a method of preventing it. Illustrate if necessary.

*Suggested by W. B. Moores, Newburgh, N. Y.*

# The Prize Contest in Questions and Answers

## Rules for the Contest.

Answers to these questions, addressed to the Editor of *MoToR BoatinG*, 381 Fourth Ave., New York, must be: (a) in our hands on or before July 25, (b) about 500 words long, (c) written on one side of paper only, (d) accompanied by the sender's name and address. (The name will be withheld and initials or a pseudonym used if this is desired.) Questions for the next contest should reach us on or before the 25th of July.

The prizes are: for each of the best answers to the questions above, any article advertised in *MoToR BoatinG*, of which the advertised price does not exceed \$25, or a credit of \$25 on any article advertised in *MoToR BoatinG*, which sells for more than that amount.

(There are three prizes, one for each question, and a contestant need send in an answer to but one if he does not care to answer all.)

For each of the questions selected for use in the next contest, any article advertised in *MoToR BoatinG*, of which the advertised price does not exceed \$5, or a credit of \$5 on any article advertised in *MoToR BoatinG*, which sells for more than that amount.

For non-prize-winning answers published we will pay space rates.

When you send in your answers, state what you will take if you win a prize.

## Methods of Handicapping.

Two Simple Systems Which Will Allow Every Contestant a Fair Chance to Win.

THE PRIZE CONTEST—Answers to the First Question in the May Issue.

### A Simple Yet Successful Handicapping System.

(Prize Won—Nautical Instruments.)

**T**HEORETICALLY, handicaps are conditions imposed to equalize the chances of competitors in a contest. Actually, they are all too frequently a lamentably pathetic and unsuccessful attempt to obtain this equalization. The handicap may be a condition which places the superior contestant at a disadvantage, or it may be a condition which bestows an advantage upon the inferior contestant. There are two kinds used in racing: distance and time. In yachting and motor boat racing time handicaps are almost universally employed as distance handicaps would be difficult to manage and to insure fairness in starting.

At present, the prevailing method of computing time handicaps is by giving each boat entered in the contest a "rating," which is obtained by means of a formula from certain measurements of boat and engine. This method is open to at least three serious objections, especially for races given by the average yacht club on regatta days. First, it is impractical for races between boats of widely differing character such as hydroplanes and displacement boats; second, it requires the presence of an expert to obtain the ratings by official measurements; and, third, it absolutely prevents any possibility of the excitement and thrills of a close finish, providing a race which is invariably a mere procession of boats plus a bookful of mathematics.

The logical method of determining the relative speeds of contesting boats for computing handicaps is by the actual performances of the boats over the whole or a part of the same course on which the race is to be run. To eliminate jockeying and the running of a boat slower than its maximum speed in the trials, penalties should be imposed, the degree varying in proportion to the excess made in the race over that recorded in the trial. Furthermore, the trials should themselves be scratch races with prizes of a value sufficient to insure the best efforts for speed on the part of the boat owner.

A system which has been tried out repeatedly in Southern waters with marked success is based upon this idea. The scratch races are held first, there being a race for each of the regular classes of boats, and running several

times over a certified course under certified timing. The handicap or time allowance is then based on the average of the two fastest laps the boat made—an average of two being taken because some boats, especially hydroplanes, will occasionally make a single lap in a much faster time than they are at all likely to make again. The boats are then started on their handicaps, the slowest boat being, of course, the first to start. If during the race a boat makes a lap faster than either of the ones used for computing its handicap, this new time is substituted and the handicap changed accordingly as soon as possible. If this excess on any one lap be greater than one per cent, penalties are imposed as follows: If the excess is between one and two per cent, greater than its trial times, the excess is added to the finish time of the boat. If the excess is between two and three per cent, it is doubled and added; if between three and four per cent, it is multiplied by three and added; if between four and five per cent, it is multiplied by four and added; if five per cent or over, the boat is disqualified. Tidal conditions need not be considered, but to eliminate any danger of inequalities from changed conditions of sea or wind, the handicap races should be held as soon after the scratch races as possible. To further eliminate jockeying, no boat is allowed to carry a stop watch on its trial performance. The usual rules of disqualification in the event of cutting or fouling a turning buoy or fouling another boat should govern the race.

This system has none of the objections of the rating system. It can be handled smoothly and successfully by amateurs; it allows entries up to the last minute of the scratch races; and it insures a race that will be of interest to the general public and a finish which will keep the crowd on tiptoe. Under this system one-fifth of a second finishes have been recorded repeatedly, while less than five seconds has intervened between the winner and the tail-end. And, besides, if you get in first you can usually be sure you have won!

Supplementing these handicapping systems the Bang and Go Back Race might be mentioned, but its qualifications have been discussed so often that they must now be familiar to all.

The American Power Boat Association Rating Rules are the ones generally used for those that must employ a rating system of handicapping.

B. B., Norwich, Conn.

### Bang-and-Go-Back-Race.

**H**ERE is a method that permits boats of all speeds to race together with a fair chance for all, that obviates preliminary measuring and handicapping, that does not require accurate timing.

The Committee boat blows a preparatory whistle, followed five minutes later by a starting whistle, followed fifteen seconds later by a "time limit" whistle. At the starting whistle, all boats dash across the line at full speed bound for some distant landmark. Any boat not on or over the line before the "time limit" whistle blows is out of the race. The field immediately spreads out, the fast ones drawing ahead, the slow ones dropping behind. After about five minutes, when the most distant boat is a mile or more away, the Committee boat blows a long blast on the whistle or fires a gun. Instantly every boat comes about and runs back to the starting line. The fast ones crawl up on the slow ones, the excitement becomes intense, every skipper steers his straightest course and the whole "field" crosses the finish line "neck and neck." The Regatta Committee promptly announces the winner and passes out the prizes before the eyes of the whole fleet.

Theoretically, of course, every boat should cross at the same instant. Actually, there is never an exact tie. You will immediately ask "What if some one throttles down going out and opens up coming back?" There are two good answers: (1) Do you know of any rules governing the racing of different types of power boats that cannot be circumvented by a man who is out to "beat the rules?" (2) In the race, every boat holds a certain relation to every other boat, i. e., boat "A" gains slightly on boat "B" going out. If coming back boat "B" begins to walk ahead of boat "A," it is self-evident that somebody has "monkeyed" with his engine.

In actual practice, the Power Squadron of the Boston Yacht Club ran a series of fourteen of these races during the summer of 1912. Only one boat won twice during the season, about every other of the twenty odd that participated came in either first or second during one race, the races were held in a sportsmanlike way and the only man that ever cheated, in an over-excited moment, opened his throttle and then became so conscience-stricken, that he dropped out of the race.

F. P. H., Boston, Mass.



# Equipping for a Cruise.

A Complete Summary of the Supplies Necessary for a Short Cruise and How These May Be Best Carried.

THE PRIZE CONTEST—Answers to the Second Question in the May Issue.

## Equipment and Supplies for a Two Week's Cruise.

(Prize Won—Credit with Wm. H. Hand, Jr.)

THE equipment and supplies for a two weeks' cruise are greatly dependent—first, on the size and individual tastes of the party, and, secondly, on the nature of the country through which the cruise is to be taken; that is, the possibility of replenishing the larder, and the probability of obtaining game or fish for the table during the trip.

Roughly speaking, however, the equipment of any trip can be divided into four classes: (a) Boat Equipment, including all regular appurtenances for the running of the boat; (b) Cooking Utensils and "pots and pans," including dishes, "silverware," glasses, table linen, etc.; (c) Stores and Foods; and (d) Personal Equipment, by which is meant the clothing and the individual personal belongings of each member of the party.

Of the above classes of equipment, the boat equipment and cooking equipment should form a part of the complement of the average well-found cruiser at all times, and it is not proposed to make a complete list of these, especially the boat equipment in this article. However, it may not be amiss to mention the following, with which it may be necessary to augment the every-day equipment of the boat proper:

Extra small parts for the engine  
Extra heavy anchor  
Sea anchor  
Emergency sail, mast and tackle  
Pair of sweeps or long oars  
Broom, mop and bucket  
Supply of different sizes of line, marline and other cordage  
Pair of field glasses  
Fishing tackle and crab net  
Shovel for digging clams  
Several decks of cards, box of dominoes, checkers and board  
Well-regulated clock (alarm clock will do)  
Writing paper, envelopes, stamps, pens and ink  
Graphophone and good supply of records  
Sewing box  
Small medicine chest

The above are all self-explanatory, with the possible exception of the medicine chest. This need only consist of a cigar box containing small glasses of the simplest remedies, a good liniment for sprains, a bottle of Phenol Sodique for cuts and bruises, some Epsom salts, cold cream, and a small roll of bandage, and last, but not least, a good-sized lump of cocoa butter for sunburn. In the sewing-box, merely have a couple of papers of needles (mostly large sizes), a paper of pins, several spools of black and white thread, some odd buttons, a thimble, scissors, and a ball of darning cotton.

The cooking equipment varies greatly with the boat, and, of course, with the amount of attention that is to be paid to the "inner man." Many boat-owners take pride in the limited amount of this equipment on their boats, but but it is not always enjoyable to the other members of the ship's company to have a good "stew" cooked in a dirty ship's bucket, or eggs fried on a small coal shovel.

If the ship's stove is of the wood- or coal-burning variety, also take a small alcohol stove to get a quick cup of coffee or pot of tea, etc. While the following list can be materially reduced if necessary, it will be found to give most of the "duffle" that is necessary to cook and prepare meals that can be relished not only by the male members of the party, but also by any of the gentler sex that may be willing to take a chance at a meal on the boat. If you can afford it, get the hardware of

aluminum, and if you buy it all at one time and at one place, many of the pieces can be gotten of a size that they will nest into one another, thus taking up the minimum amount of valuable room. Have one drawer purposely for kitchen forks, potato-masher, egg-beater and other articles of the same general size that are liable to be used every day. Keep the dishes according to kind and size, the plates and platters in frame racks, and, if space is very valuable, stand them on edge in the racks. Get glasses that fit into each other, keeping the every-day glasses out in frame racks on shelves along with the decanters, and the others in a safe place where they will be available for "company" or when the regular glasses are broken.

Good-sized tea-kettle  
2 galvanized water pails  
1 large and 1 small preserving kettle  
1 large and 1 small stewing or sauce pan  
1 large and 1 small skillet or frying pan  
1 coffee pot and 1 tea pot and 1 coffee strainer

Good cook book  
Toaster and 1 broiler  
Pancake griddle  
3 baking or bread pans  
6 pie plates  
Small dish pan  
Small hand basin  
2 large cooking spoons  
1 cooking fork  
1 large cooking knife  
Potato peeling knife  
Bread knife  
Pancake turner  
Egg-beater  
Lemon squeezer  
Carving set  
Can opener  
Clothes brush  
Syrup jar  
Dish towels and dish cloths

### CHINAWARE

8 large dinner plates  
8 lunch plates  
8 soup plates  
8 bread and butter plates  
8 cups and saucers  
2 platters  
2 open bowls  
2 covered dishes  
1 cream pitcher and 1 sugar bowl  
Several small flat dishes  
Large pitcher

### GLASSWARE

12 water glasses  
12 high-ball glasses  
12 wine glasses  
3 decanters  
1 carafe  
Set of salt and pepper shakers

In stocking the larder, do not get an excessive amount of canned goods. Canned foods get very unappetizing as a steady diet, weigh a great deal and get very rusty if allowed to get near salt water. Rusting, however, can be prevented by wrapping the individual cans in waxed paper or dipping the cans in heated paraffine. Fresh vegetables will generally last a week or longer, and on most cruises it is possible to get fresh vegetables at the end of a week. They not only taste better, but are much cheaper than the canned variety. Keep a bin or box for potatoes, onions and other dry vegetables and fruits. If a supply of bread is taken on a trip, wrap up each loaf separately in waxed paper, and it will keep sweet and fresh for a week. Keep the butter in a crock of water and the eggs in a box or drawer of sawdust. Canned milk may be purchased in small cans at 5c each and this size is the most convenient for use on the boat. Keep all dry foodstuffs, such as cereals, rice, sugar, etc., in Mason jars. These jars come in three sizes—pints, quarts and half-gallons—and provision should be made for carrying at least half a dozen of each size on a shelf in a locker, the shelf being so arranged that the jars cannot slide off or bump against each other. Keep ham and bacon in waxed paper, and, if expense is no object, get small jars of Beech-

wood ready-sliced bacon. Get small cans of spices all of the same size and keep them in a little bracket-shelf near the scene of operations. Keep flour in a metal can with tight-closing top. Keep jars of jelly, pickles, etc., packed away in sawdust or with paper. Keep a supply of paper napkins and a paper lunch cloth or two aboard, as they add a touch of daintiness to a meal and help improve the appetite.

A list of stores and foods which may be changed to suit conditions, and which will probably serve as a guide for a more complete list, is as follows:

Sugar  
Flour  
Pancake flour (self-raising)  
Baking powder  
Coffee and tea  
Dried peas, beans and prunes  
Rice  
Cereals and breakfast foods  
Corn starch, tapioca, Jello  
Eggs and butter  
Can of lard  
Macaroni  
Cocoa  
Bottle each of catsup, Worcester sauce, horse radish and mustard  
Bottle each of pickles and olives  
Bottle each of olive oil and vinegar  
Potatoes, beets, onions, turnips and other dry vegetables  
Corn, spinach, radishes and other green vegetables  
Oranges, lemons, bananas and other fruit  
Ham and bacon  
Matches  
Bread  
Cheese  
Several glasses preserved fruits and jellies  
Several boxes soda crackers and milk biscuits  
Small can each of pepper, cinnamon, sage, mustard and curry  
Good supply of canned milk  
Several cans each of syrup, soups and clams  
Several cans each of corn, tomatoes, peas  
Several cans each of roast beef, corned beef, veal loaf and tongue  
Several cans each of potted ham, sardines and other fish  
Toilet soap, galley soap and salt-water soap  
Dutch cleanser or other soap powder

The personal equipment of the individual members of a party is the bone of contention of many boat-owners. The ever-present suitcase has probably caused more cuss words than even the gasoline engine itself. It is unnecessary to say that most people take along too much clothing. Even in our Puget Sound country, very few guests ever use more than half of the stuff they pack along on the boat. In the present day of "B. V. D." and other light-weight underclothing, it is so easy to do a little laundry work, that it is thought one change should be sufficient. However, take along several pairs of socks, as they have a bad habit of getting "holy" especially on a boat. Bathing suits are not only useful for taking a swim in civilized communities, but are ideal for lounging around the boat or in the shade. Oil skins are hardly necessary for the average summer cruise, but straw sombreros are almost a necessity in the hot sun for fishing, etc. San Francisco yachtsmen have a very picturesque habit of wearing duck trousers, blue flannel shirts and occasionally red tam-o-shanter hats. The former are seldom clean and the latter are good in a wind and also look "stunning" in the photographs which are generally the aftermath of the trip. If there is any hunting or fishing, go properly equipped. Keep the guns and fishing rods slung under the cabin car-lines where they will be out of the way, but readily accessible. The ideal hunting equipment for a cruise would probably consist of a 30-30 carbine, a 12-gauge shotgun and a small repeating rifle, the carbine for big game, the shot gun for birds and small game and the small rifle for target shooting and to take a shot at the fish-

killing seal. Take a film camera in preference to using plates as it can be reloaded without the use of a dark room. If you are a smoking man take the weed in tins so that it won't be affected by dampness and don't forget to take along a spare pipe. Use the following list as an outline, but don't increase it without thinking twice.

One suit of clothes  
One pair of duck or other trousers  
Flannel shirt and linen shirt  
Bathing suit  
Sombbrero  
Oil skins  
Tennis or other shoes  
Extra cap  
Several pairs of socks  
Comb, brush, tooth brush, tooth powder  
Shaving kit, towel  
Gun and fishing tackle  
Camera and films  
Smoking materials

In conclusion, take a cheerful frame of mind and keep it throughout the trip. Nothing shows up a man's true disposition quicker than a two-week's cruise. Don't criticise the other members of the party for not knowing the hang of things about the boat. Do your share of the hard work, and, above all, keep the boat ship-shape. Nothing is so disgusting as a dirty and untidy boat after several men have lived on it for several days. Keep clean, keep well shaved, keep good natured and last, but not least, keep the graphophone going.

FRANK J. GRUBE, Tacoma, Wash.

## Another Complete Inventory.

NEVER go on a cruise in a rush, for, of course, the success of a two weeks' cruise depends a great deal on a careful preparation and the use of good, sound judgment in the selection of an outfit before the start.

Take into consideration the localities and facilities about the waters you intend to cruise. Decide whether you will buy "ready-made meals" on shore or remain aboard the craft for all meals. If your choice should be a river cruise through districts where fresh foodstuffs, such as the season's fruits and vegetables, are to be had daily, it would be unwise to store up with canned goods or preserved "stuff," but on an off-shore cruise the selection of the food should be such as to suit the taste and number of persons included in the party. Take care to see that your provisions are put up in air-tight packages or tin cans, in order that they may be dry and fresh at all times. If the best provisions are procured, you will not be disappointed. The following list of articles and means of carrying the same, if taken in quantities to suit, will be ample equipment for an ordinary cruise:

### No. I. THE BOAT EQUIPMENT.

Barometer  
Bell and Whistle  
Boat Hook  
Bucket  
Clock  
Coil of Rope  
Compass  
Fire Extinguisher  
Fog Horn  
Ground Tackle (Two sets anchor and cable)  
Kerosene  
Lantern  
Life Preservers  
Lights  
Oars  
Pump (for bilge)  
Tide tables

### No. II. ENGINE ACCESSORIES.

Extra Batteries  
Extra Parts  
Gasoline (all possible)  
Hard Grease  
Lubricating Oil  
Packing  
Rubber Hose  
Spark Plugs  
Tool Kit  
Waste  
Wires

### No. III. CULINARY EQUIPMENT.

Stove & Wood Alcohol  
Broiler or Toaster  
Can Opener  
Coffee Pot  
Cooking Spoon  
Cork Screw  
Drinking Glasses (thick)  
Knives and Forks (table)  
Matches (in waterproof tin)  
Pans (dish, frying & sauce)  
Paring Knife  
Plates, Cups & Saucers  
(Granite ware)  
Soap, Laundry & Scouring  
Spoons  
Thermos Bottle

### No. IV. PROVISIONS.

Fresh Water (In stone jugs or tanks)  
Canned Goods.  
Canned Beans  
Condensed Milk  
Peas  
Soups  
Tomatoes  
In Jars.  
Jar of Sliced Bacon and Salt Pork  
Butter  
Cheese  
Marmalade  
Pickles  
Syrup  
In Packages.  
Pkg. Crackers, Graham, Oysters and Milk  
Grape Nuts  
Pkg. Hard Tack  
Oat Meal  
In Tin Cans.  
Can of Baking Powder  
Mustard  
Pepper  
Salt  
Spices (mixed)  
Sugar  
In Sacks.  
Sacks of Carrots  
Onions  
Potatoes  
Turnips  
For Drinking.  
Can of Cocoa  
Coffee  
Bottle of Root beer Extract  
Lemons for Lemonade

### No. V. PERSONAL OUTFIT.

Bathing Suit  
Blankets  
Cake of Tar Soap  
Cap  
Sailor Hat  
Shirts (Flannel & Soft Light)  
Shore Clothes  
Socks  
Sweater (Heavy)  
Tennis Shoes  
Tooth Brush & Powder  
Towels & Handkerchiefs  
Oil Skins  
Pajamas  
Working Suit (Blouse & Trousers)  
Carried in a suit case of Waterproof bags

### No. VI. MISCELLANEOUS OUTFIT.

Ball of Twine  
Brace & Bits  
Candles  
Clasp Knife  
Claw Hammer  
Combination tool set (carried in handle of tool)  
Flat Files  
Fishing Tackle  
Fire Arms  
Hatchet  
Nails (assorted)  
Rule for Tape Measure  
Roll of double width sail cloth in which the whole outfit may be wrapped and tied.

### No. VII. GENERAL EQUIPMENT.

Camera & Films  
Marine Glasses  
Medicine Kit  
MoToR BoatG (several copies)  
Needles & Thread  
Pipe and Tobacco  
Playing Cards  
Postage Stamps  
Suit Case  
Writing Materials; may be carried in the suit case

C. E. BRADLEY, Fall River, Mass.

A number of excellent answers to this question were received, but as most of the good ones were very long we have found it impossible to print more than two of them at this time. Those of the others that we have found available will be paid for at the regular rate and held for use in a later issue.—Editor.

# Constructing the Engine Bed.

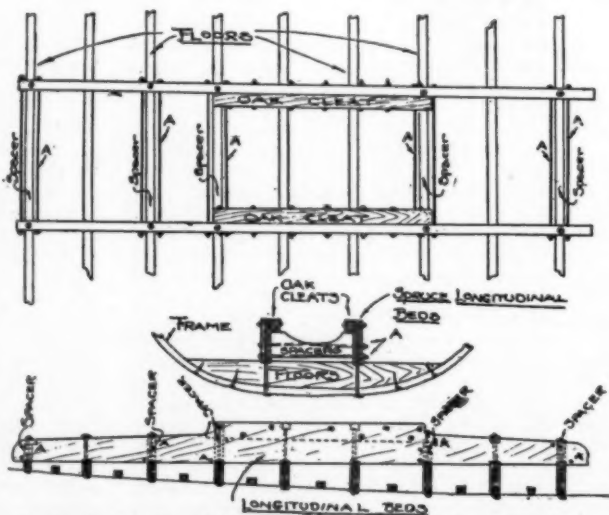
Several Methods Suggested for Building this Important Part of the Boat and Methods of Fastening the Engine Down.

THE PRIZE CONTEST—Answers to the Third Question in the May Issue.

## A Practical Engine Bed.

(Prize Won—Chelsea Marine Clock.)

THE accompanying drawings show better than words the general arrangement of an engine bed that will absorb much of the vibration set up by a motor. The dimensions of the various parts, of course, depend upon the horsepower, type and weight of the power plant to be installed. Beds similar to those shown in the drawings are fitted in a 25-foot runabout whose beam is 6 feet. The construction of the hull is light, frames being  $\frac{1}{2} \times \frac{3}{4}$  oak 6 in., C to C, planked with  $\frac{1}{2}$  in. cedar. The power installed is a four cylinder, four cycle  $4\frac{1}{4} \times 5$  motor of well known make, weighing approximately 600 lbs. complete. It runs at its various speeds with very little vibration.



Engine bed designed by Mr. Atkin to absorb the entire vibration of the motor.

Some great advantages of bed's built in this manner is that they allow the motor to be bolted into place with through bolts in place of lag screws; the longitudinal members may extend in full size beyond the fly-wheel either forward or aft, as the case may be; and the cross beds or floors distribute the weight and strains over most of the boat's bottom, thereby giving greater strength to the hull.

In this particular boat the horizontal beds are 19 ft. long of  $1\frac{3}{4} \times 10$  spruce tapering forward and aft as shown in the drawings. The cross beds are  $1\frac{1}{2}$  elm, one at every other frame, making them 12 in. center to center and approximately 4 in. deep. The forward and aft pieces are notched over the floors about  $\frac{1}{2}$ ". Spacers of  $1\frac{1}{4}$ " oak fitted between the beds, marked A.A.A.A. and held in place by screws and  $\frac{1}{2}$ " galvanized iron rods with one end upset to take a clinch



ring and the other threaded so as to allow the whole to be clamped together, give box-like rigidity. Galvanized iron bolts through every other frame and floor and the longitudinal pieces find the component parts and complete, with the exception of the oak cleats for bolting down the motor, a foundation most as solid as the Rock of Gibraltar.

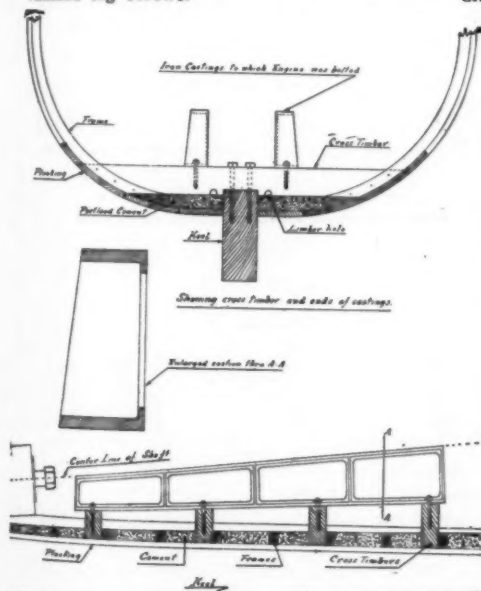
The width between the forward and aft members must, of course, be determined by the dimensions of the motor to be installed. Nearly every marine motor manufactured has the holding down legs or pads of the crankcase less in width than the diameter of the fly-wheel. By bolting oak cleats along the top edge of the legs for the length of the engine base, a rabbit is formed, through which bolts may be used for holding the motor in position. In bolting in oak cleats, space bolts not more than 6 in. apart.

WILLIAM ATKIN, Huntington, L. I.

### Suitable for a 35-foot Cruiser.

SEVERAL cross timbers were cut out of oak 3" thick, notched out to fit over the keel, each one fitted against a frame and close to the planking.

The top edge of cross timbers was cut so as to be in line with the floors, and each were fastened to a frame with galvanized nails through the frame and to the keel with galvanized lag screws.



Showing Engine Bed Castings fastened to cross timbers.

Mr. Clitheroe suggests a cast iron engine bed.

Portland cement was poured in around the timbers to the depth of and flush with the top edge of frames to make a clear run for the bilge water, and a limber hole was cut through the timber on each side of the keel.

When the position of the engine was known, a wooden pattern was made, high enough to make up the difference between the top of cross timbers and the under side of engine base and long enough to take the engine, reverse gear and rear bearing.

Two iron castings were made from these

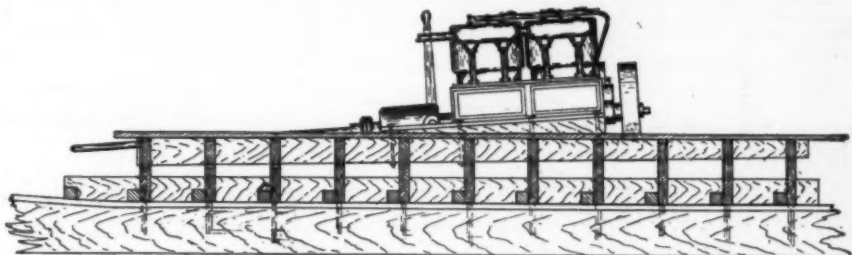
patterns and planed top and bottom to the exact thickness wanted. Holes were drilled in the bottom of the castings to let the hanger bolts through which were screwed into the cross timbers, then the engine was set on the castings, lined up and bolted.

The vibration comes directly on the keel and frames, and is distributed over a large portion of the planking.

JOHN CLITHEROE, Attleboro, Mass.

### Full Length Keelsons.

FOLLOWING is a description of the way we installed a 12-h.p. heavy-duty engine (Buffalo), weighing 1,400 lbs., in a medium weight 28-foot raised deck cruiser. The



Upper floors bolted to engine stringers and screwed to ribs. One thru bolt thru engine stringers at each floor, floors screwed to ribs. Two drift bolts tie lower floor and keelson to the keel.

Excellent arrangement of fore and aft and cross timbers suggested by Mr. Goddard.

installation proved very successful, there being no vibration whatever with engine running full speed. The vibration of engine will be distributed over practically the whole hull instead of being localized immediately under the engine. There are no heavy timbers or extra frames under the engine, though bolts are used instead of lag screws to hold the engine down.

Taking each operation in proper order, the construction is as follows: The heels of the steam bent frames are fastened to keel

engine timbers to (fig. 2). Next two tapered engine timbers (fig. 3) are cut to fit the shaft inclination of pine or oak. In my case it was intended to use through bolts to fasten engine to bed, and it was found that two pairs of these bolts would land on top of a floor (EE EE fig. 1), so it was decided to only carry these through the engine timbers. Notches were cut in the bottom of these timbers to take the nuts and washers of these bolts, the bolts being driven down from the top and tightened up by turning the head of

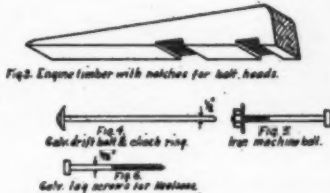
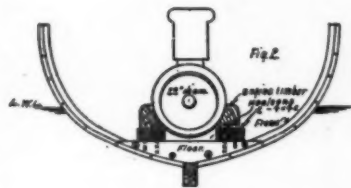
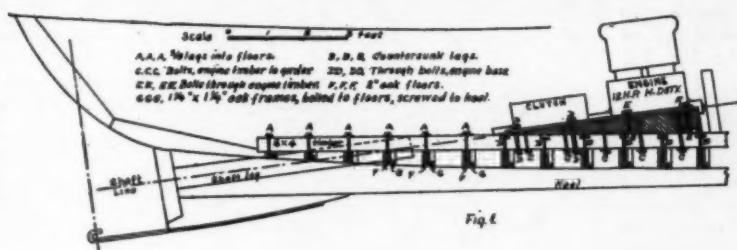
with 3-inch galvanized screws (my keel was 4" pine). A 2" oak floor is fitted alongside each pair of frames and riveted to frames with  $\frac{3}{8}$ " rivets or by galvanized bolts, 4 to 6 fastenings to each floor. The floors are fastened to keel by drift bolts made of  $\frac{1}{2}$ " galvanized rod driven down into keel and riveted over clinch rings on top (see fig. 4). The top line of the floor timbers should be straight or should make a fair curve, so that long 4" x 4" pine timbers (keelsons), can be fastened along on top of them (figs. 1 and 2).

These keelsons should be as long as possible to distribute the engine vibration over the whole length of boat; in my case they were about 18 ft. long. This makes a very strong girder construction; the keelsons and keel representing the top and bottom

flanges and the floors the web members.

The keelsons should be spaced just far enough apart to clear the engine flywheel; at this stage a fine steel wire should be run through the exact center of the shaft hole and the position of the flywheel and engine base determined. Then fasten the keelsons to the oak floors by  $\frac{3}{8}$ " galvanized lag bolts (fig. 6) have these as long as possible, but do not let them go clear through the floors. The keelsons should rest evenly on every floor; notch floors out a little if necessary.

Countersink heads of lags where they come near the engine position in order to leave a smooth base for engine timbers. A second pair of shorter 4" x 4"s are fastened to floors with lags; thus giving a 4" x 8" bed to fasten



Mr. Parker's engine bed is made exceptionally long and heavy.

the bolt on top and holding the nut, wedged into an S wrench with washer on top, in the slot under the engine timber (See EE, EE, fig. 1).

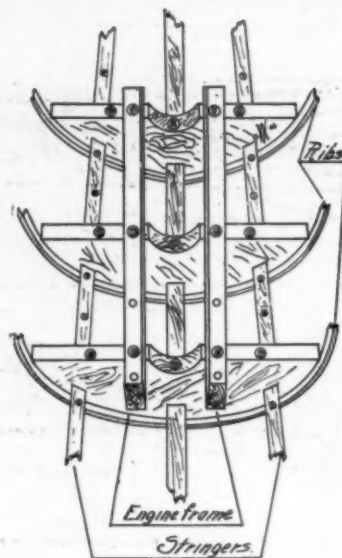
The holes for these bolts should not be bored until after the engine timbers are permanently fastened to keelsons, as their exact location will not be known until engine is lined up. The notches were cut large enough to allow some leeway in the position of the holes. The other holding down bolts, as shown, will go through both timbers and keelson with nuts and washers underneath. Bolt these engine timbers, in their proper position, to the keelsons, using iron machine bolts; heads countersunk. Washers and nuts under keelsons. Lighten bolts by turning head (on top) while holding small wrench on nut beneath. (See C, C, C, C, C, fig. 1). Put about five bolts into each 4x4.

The engine is now set upon the bed and properly lined up (see April MoToR Boat-inG) and then holes are bored down through the engine timbers and keelsons for the holding down bolts (D, D, E, E, fig. 1).

H. H. PARKER, Oakland, Cal.

### Type of Engine Bed depends upon Hull.

**S**TYLES in engine beds are and should be as numerous as the different types of hulls, for what is best for one type is inadequate for another. The main object sought is to distribute the weight and vibration of the engine over a maximum of the hull's skin. The following design has worked out admirably in a heavy built, deep draft cruiser and is well suited for the general run of boats of generous deadrise and has the advantage of being easily installed in a boat already built. The foundation of the bed is the keel. On this a heavy hard pine keelson



Mr. Moore's bed is designed extra heavy.

set to give lateral stability to the stringers and help distribute the weight and vibration of the engine to the planking of the boat and thus to the supporting water. The engine is bolted to the stringers with through bolts. Inside the stringers and over the tops of the under floors a permanent sheet copper pan is installed to collect grease and oil and keep bilge water away from the flywheel which delights in soaking the whole interior of a boat if it gets half a chance. The slight pitch aft of the pan causes drippings to flow to the rear where they can be sopped up with waste. It is a pretty good stunt where weight does not count to fill in with a 1:3 mixture of Port-

boat, the engine bed must be so designed that the vibration is distributed throughout the hull. In the design shown, the pieces marked floor timbers are bolted through the keel and if possible are securely fastened to the timbers.

The size of the bed depends on the motor selected, the shape and design of the hull.

When the proper spacing of the beds is determined, run the stringers on top of the floor timbers as shown and bolt securely to same, these stringers should run as far fore and aft as possible as they distribute the vibration throughout the hull.

To fasten the engine to the bed, lag-screws of the proper size to fit holes in the iron bed plates of engine should be used.

With a hack saw cut off the head of the lag screw and on the top end cut a thread to fit a nut of proper size. When ready to install the engine make a cardboard template of the iron base marking the center of the holes in same, lay on the wood beds in the position that the engine will occupy and mark the center of the holes at these points, bore holes slightly smaller than the lag screws.

Then, by means of the nut on the top of lag, screw down into these holes, remove nut and set engine on the bed, when in place put a washer under and set up each nut.

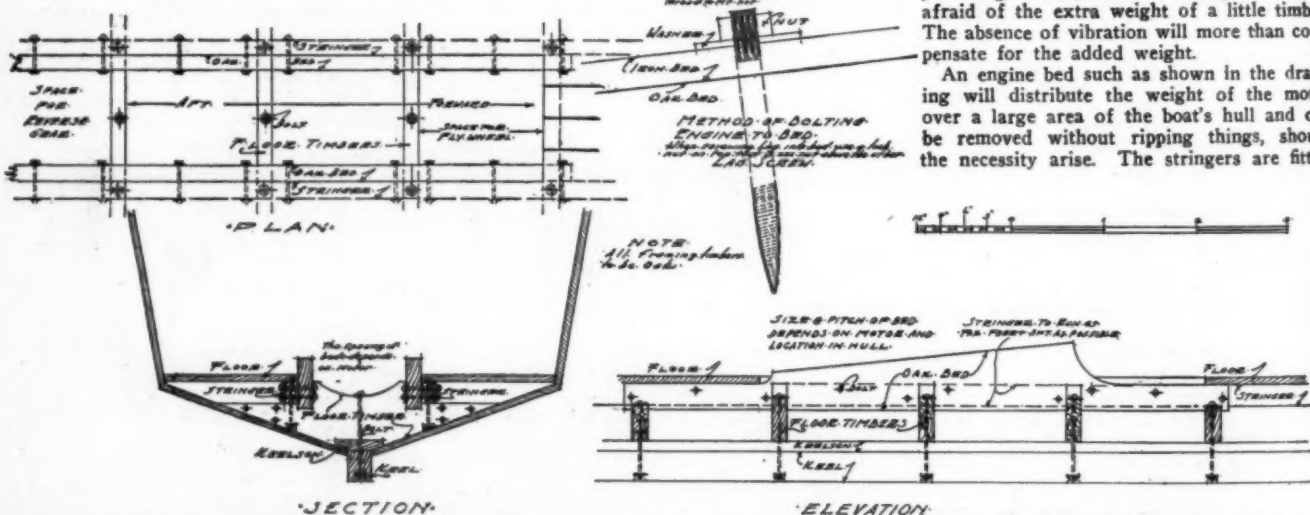
This system is better than the solid lag screw as it allows the engine to be removed by simply unscrewing the nut and lifting the engine off the bed.

J. A. LOCKIE, Washington, D. C.

### Strong and Secure.

**A** POORLY constructed and improperly fastened engine bed is responsible for many hot bearings, loose plankings, undue vibration and numerous other ills generally laid to another cause. When you build your engine bed, build it strong. Don't be afraid of the extra weight of a little timber. The absence of vibration will more than compensate for the added weight.

An engine bed such as shown in the drawing will distribute the weight of the motor over a large area of the boat's hull and can be removed without ripping things, should the necessity arise. The stringers are fitted



Several views of the excellent engine bed designed by Mr. Lockie with his method of fastening the motor securely to the engine bed.

is fitted, notching over the ribs and extending forward and aft of the engine position by a considerable distance (the farther the better). This keelson should be very heavy and stiff. Over this there is fitted at each rib a floor or cross timber of oak 2" thick, having a good bearing on the keelson and planking either side. Two through bolts or drift bolts at each floor bind floor, keelson and keel together solidly. The floors are also secured to the adjoining ribs with heavy screws. The tops of the floors are all leveled off with a slight pitch aft and on these the two stringers of hard pine upon which the engine rests are bolted. One bolt through each stringer at each floor does this. Other floors are bolted to the stringers and to the ribs above the first

land cement between the floors. This should be topped off with a 1:1 mixture trowelled smooth. An engine installed on a foundation of this kind will run without a quiver and is a source of endless satisfaction to an owner.

R. W. GODDARD, Lincoln, Neb.

### A Satisfactory Engine Bed.

**T**O SUCCESSFULLY build an engine bed several things are important, it must be in line with the shaft, on center with the boat, and securely fastened to the hull, care being taken before starting to build that hull is properly leveled up.

As the absence of vibration makes a better running engine and a more comfortable

first and tightly fastened to each rib with flat head brass screws. Have these stringers as long as is consistent with the design of the boat and of ample size.

The cross pieces (three shown, but more are better) are mortised onto the stringers and the keel and fastened with bolts to make a strong construction. These should be placed at about every third rib or nearer, depending on conditions.

The engine frame is mortised onto the cross timbers and fastened with bolts. If conditions do not allow the use of bolts, lag screws may be used. The height of these timbers must necessarily be determined by the motor to be installed.

W. B. MOORES, Newburgh, N. Y.



# Building a Small V-Bottom Cruiser.



**W**HEN the part described in the previous article has been got out, you can proceed to erect the boat. The first thing is to attach the keel to the various members forming the backbone of the boat, namely, the stem, stemson, keelson, stern post, transom and transom knee. The stem and stemson are attached together, and to the keel and keelson by means of  $\frac{3}{8}$ " galvanized bolts, headed up over clinch rings.

In a somewhat similar manner, the stern post is attached to the keel and to the keelson, through which it passes. The transom is attached to the transom knee by means of heavy screws and rivets passing through the stern board, and this, in turn, is attached to the keelson in the same way. When these parts are securely fastened together, the whole keel assembly should be set up on blocks, so that it will be about a foot or a foot and a half above the floor, and the bottom edge of the keel should be stayed in a straight line in both directions. The declivity or difference

## Further Details Regarding the Construction of an All-around Cabin Boat of Small Dimensions.

By Henry Douglas Bacon.

### PART II

in the height between the forward and the after end of the bottom of the keel can be gotten from your lines and is  $\frac{5}{8}$ " higher at the bow than at the stern.

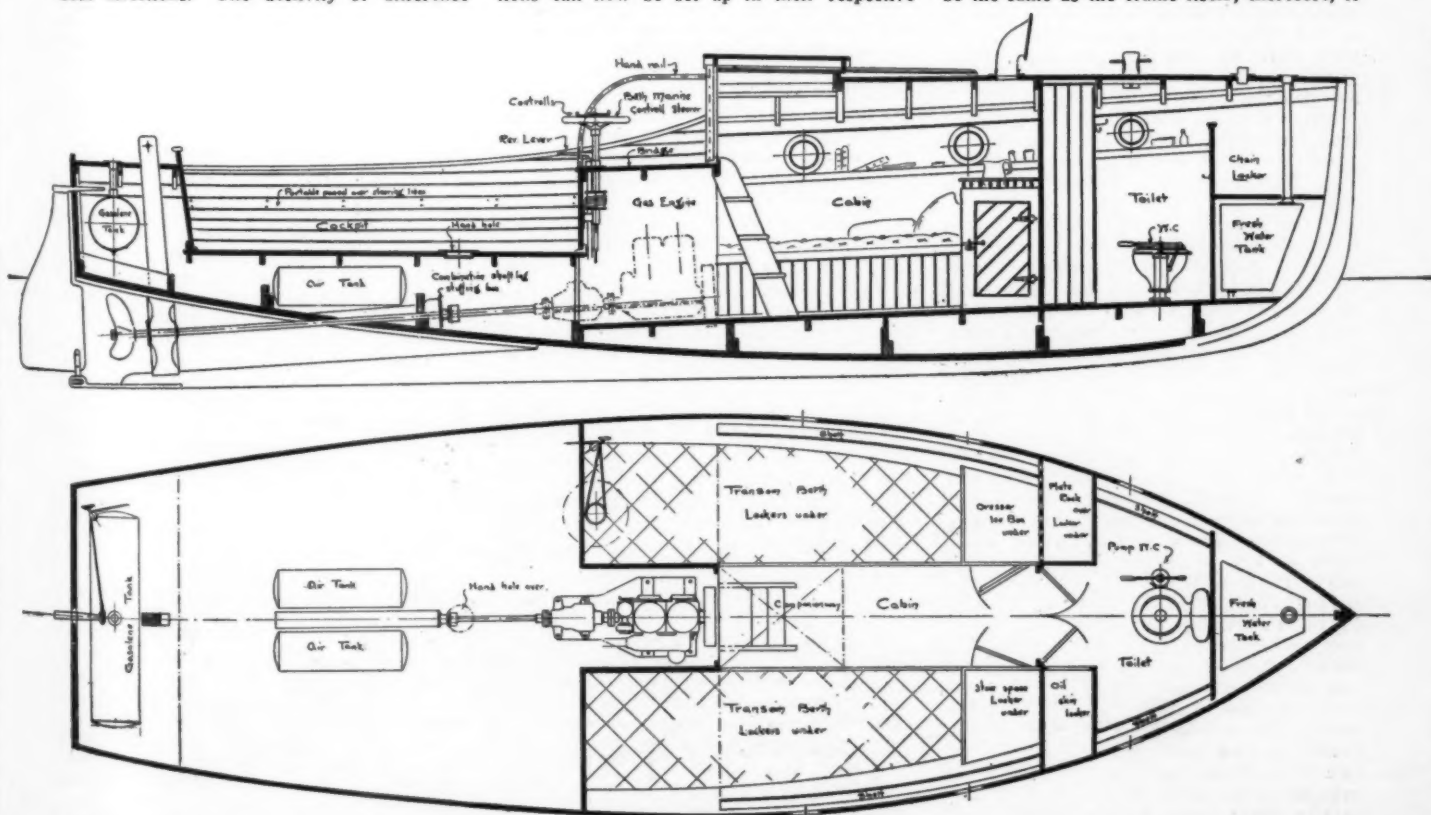
The stem should be plumbed, and also the center line of the transom; it will be necessary when these are gotten in proper line to stay them securely, so that they will remain so during the building of the boat. If the frame stations have not been previously marked on the keel, this should now be done; from the line plan the location of the frames can be obtained. They are 3' apart, commencing at the forward side of the stem. This would make the last frame space from the transom 4' 2", and with these points located, the frame sections can now be set up in their respective

places, and in doing so arrange them all in the same way; that is, with the floor aft and the lower frame forward.

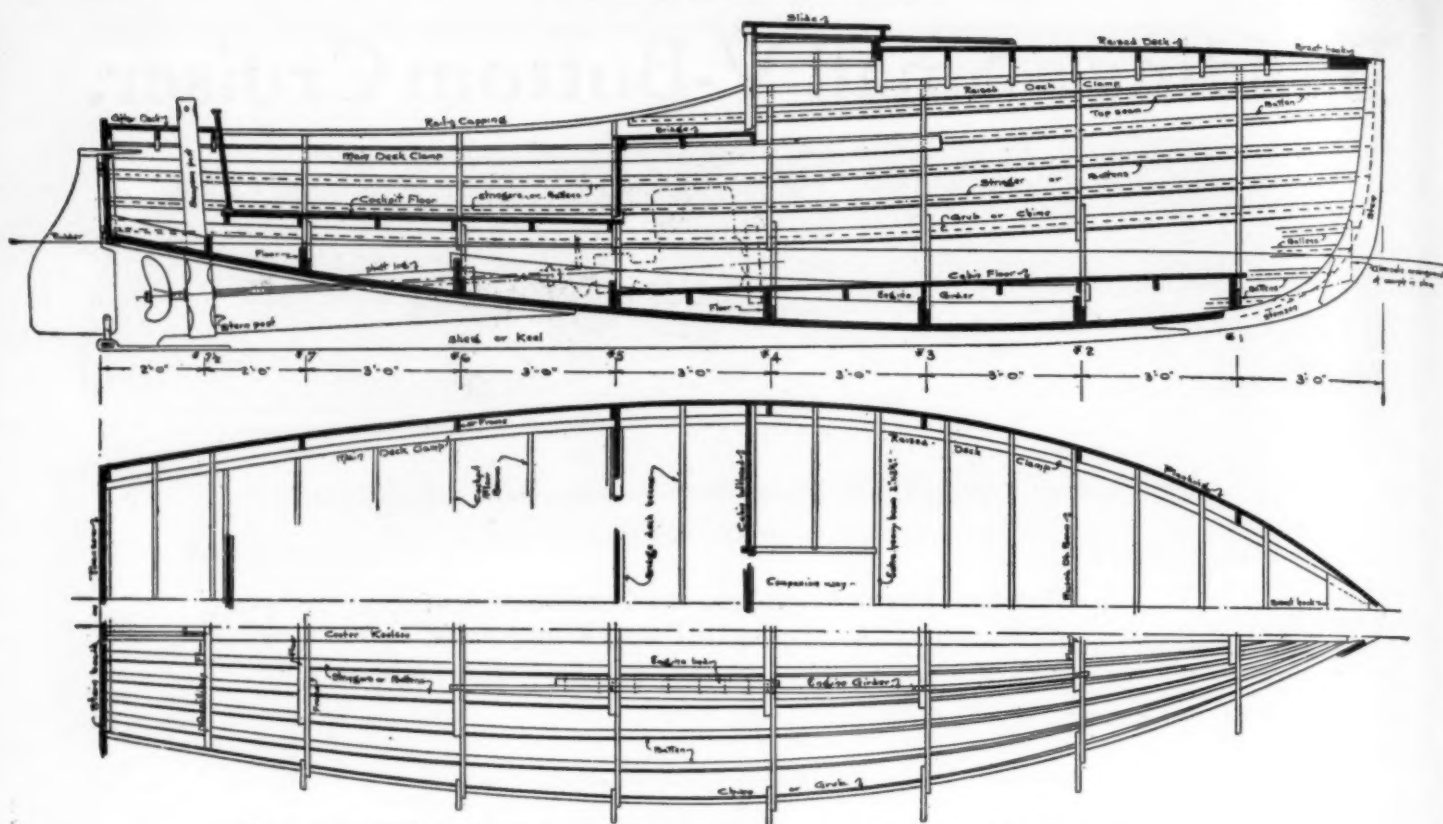
The floor comes on the after side, and the frame comes on the forward side of the line on the keel, indicating the sections. Plumb

these both in the fore and aft direction, and also in a thwartship direction, and stay them securely. Bore a  $\frac{5}{16}$ " hole down through the floor through the keelson and through the keel, and into it drive a piece of  $\frac{3}{4}$ " galvanized iron rod headed up on each end with a clinch ring over it.

If the notches for the grub strake have not already been cut in the frame, this should be done and the grub strake fastened to the frame by means, preferably, of galvanized or brass screws about  $\frac{1}{4}$ " No. 12. The grub strake should be left extending slightly below the lower part of the frame so as to allow for beveling, which beveling can now be easily done, as the bevel at any particular frame will be the same as the frame itself; therefore, if



Plans showing cabin and cockpit arrangement in the 25-foot, V-bottom cruiser. In a boat of this size this arrangement can hardly be improved upon, although several alternatives are possible to suit the particular needs of the owner.



Plans showing the various structural details that must be taken care of in the building of the cruiser.

the bevel is cut at each particular frame, the parts between can be easily faired in and taken off. The forward end of the grub where it attaches to the stem, should be tapered slightly so that it will not be necessary to cut too deeply into the stem as the stem is notched out to receive the ends of the grub stake, and the grub stake is attached to the stem by means of nails or screws. Figure D shows how a stringer is attached to the stem and, as the grub or chine is attached in the same way, this one illustration is sufficient for both. The main thing to observe, aside from a good fit, is that the outside edge of the stringer or grub comes so that the inner edge of the planking will lie smoothly up against it and also onto the rabbet in the stem.

Figure G shows in detail how the grub and stringers are attached to the transom or stern board cleat, which is identical with the fastening of the stringer and grub strake to the various frames.

If the stringers (battens) have not been previously located on the midship frame, do this, then, using these points, stretch the stringers fore and aft and attach them temporarily by means of small nails to the frames, and stern board. Tack a stringer temporarily along the line of the main deck aft, continuing it forward in a fair line, converging towards the line of the raised deck till, at the forward end on the stem, it is about 6" below the line of the raised deck. This will be the top seam, the seam between the hull proper and the raised cabin sides. Between the knuckle and this line, on each frame, divide the distance up proportionately, and run the stringers through these points. Transfer these

transfer and fair them on the other side and notch them in the same way. It is well, in cutting the notches, to use the stringers that will be eventually used in this place and attaching them as you proceed with the work, as the stringers may vary slightly in width, causing poor joints otherwise. The stringers should be attached to the frame, stem and stern board by means of galvanized screws about 1 $\frac{3}{4}$ " No. 10.

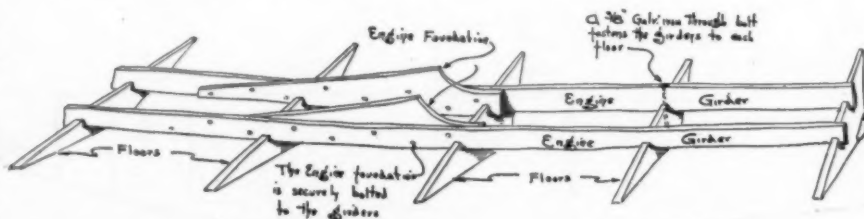
**Clamp.**—The clamps can now be put in place; they are run along parallel to the deck sheer: in the case of the raised deck, an inch below it, and should be securely fastened to the frames by means of screws about  $3\frac{1}{2}$ " No. 20, or nails, or  $\frac{1}{4}$ " rivets. The main deck clamp is run from the stern up to frame No. 3, and extends along the line of the raised deck about 4" below, but instead of following it up to the height of the raised deck, it should continue out along parallel to the line of the top seam of the planking. Fasten this in the same manner as you fasten the raised deck clamp.

**Engine Foundation.**—If you have decided on the engine you will use, now is the proper time to install the engine foundation. This can be built in a number of different ways; probably one of the best ways is to run a set of engine girders about  $1\frac{1}{2}$ " thick by 3 or 4" deep fore and aft along the top of the floors at a distance out from the center line, so that when the engine bed proper is attached to them, the engine beds will be the proper distance apart, so as to receive the holding-down bolts of the engine. Sketch shows the idea; these girders can be made of oak, yellow pine or spruce and should be well fastened by means of through

bolts into the floors. The engine foundation proper should be well riveted to the girders, and where they stand very high should be supported by cross-floors or pipe braces attached to the sides of the boat.

**Planking.**—The planking of this boat is  $\frac{3}{4}$ " in thickness. As the garboard is the most difficult plank to fit, and has also the most twist in it, select a good piece of wood for this and stretch it along the boat, making it lie fair on the various frames and as close to the keel as possible; then, with a pair of dividers, draw a line along this plank, keeping the distance set with the dividers, from the rabbet in the keel to the plank at all times the same in a direction at right angles to the keel. Rough off the material that comes between this line and the keel and fit the planks up to as near the keel as it will come; it should now come pretty close and, with a little trimming here and there, could be made to fit into place. Do not be discouraged at this point, as this is the most difficult plank in the boat to fit and, at the best, will require some time and labor. When you have the seam next to the keel properly fitted, the seam that comes on the center of the stringer next out can be easily gotten by drawing a pencil line along the edge of the stringer onto the plank, when the plank is in place and either adding or deducting (depending on which side you drew the line) one-half the width of the stringer. Fair up this seam and fasten the plank permanently in place; the fastenings can be either galvanized iron, copper or brass. In the seam that comes next to the keel, it will not be practical in most places to use a through fastening, as the thickness will be too great and either a screw or a

galvanized nail will have to be used. In the edge that comes on the stringer, a through fastening can, however, be used and galvanized or copper nails about 1 3/4" long can be driven in against an iron and curled over so that it will be impossible to draw them out without pulling the heads through the



### Detail of Engine Foundation

The engine bed should be built long and heavy and care taken to bolt the engine securely to the foundation.



planking. This type of fastening is much easier put in, and is equally as good as driving a copper rivet through the planking and riveting it up over a burr. The spacing of the rivets in the seam in the bottom of the boat should be from 4" to 5" between the centers; on the side, however, the spacing can be widened out to between 5" and 6".

Where the planking crosses the frame screws or nails about 2 in each frame should be used, and in the stem and stern board nails and screws will also have to be used instead of clinched fastenings. The remainder of the planking can now be gotten out, and this can be easily done by laying a plank on the boat in the position it is required, fastening it in place temporarily, and marking along the edges of the stringers onto this plank; cut the superfluous material off to these marks, or very nearly, allowing a small amount for fairing; fit the plank back where it is going and make up the caulking seam. A caulking seam is a seam in which the outside edges are about 1/16" apart and the inner edges come together. It will not be found convenient or necessary to get the planking in one length from bow to stern, but where the planks are made in more than one length care should be taken that the butts in the adjacent plank do not come near each other, and that these butts are securely fastened to oak butt blocks of the same thickness or a little thicker than the planking, and from 16-18 in length.

All the other strakes on the boat can be put on in the same manner described. While on the planking it might be well to complete the hull; that is, the boat is now to be planed and sanded to a smooth surface. The seams can be opened with a wedge-shaped piece of oak; this should be dipped into oil, so that it will run smoothly and run along in the seam. These seams are opened so that it will be easier to caulk the boat. Caulk the boat with a strip of wicking or a little twisted caulking cotton a little smaller than a pencil; force this well down into the seams; in fact, until it comes to the stringers, but do not drive so hard as to tend to force the stringers off. An ordinary case-knife, ground off at the end so that it is square can be used for this purpose. Be sure that there are no breaks between the caulking; that is, do not leave out a piece of caulking along the seam or at the end of a plank. Where you leave off, leave a little end of the caulking sticking out so that you will know where to commence again. Caulk the seams, the butts in planking; the wood ends where the plank laps onto the stem and also where they are fastened to the stern board; caulk where the stern post goes through the keelson, and also stopwater all joints where they pass from the outside to the inside of the boat, so that the water can not follow along this seam and enter the boat. When thoroughly caulked, with an old tooth brush or other similar brush, run white lead paint well into all the seams and allow to thoroughly dry before puttying. The putty should be made up out of white lead mixed with enough whit-

ing so that it can be easily handled. About the consistency of dough. Force the putty well down into the seams and smooth off surplus. When this has set for a day or so, the boat should be sanded and given a priming coat all over, both inside and out, of good white lead paint.

You are now over the difficult part, but don't sit down and rest, as there is a lot of hard work yet and the time is short. The main deck beams can now be gotten out and fitted in place. Get out the aftermost beam; this should be about 1 3/4" thick of oak and about 2" deep. A better deck is gotten by not making an exact circle of the beam, but by making them flatter at the top and increasing the curve as you go towards the sides of the boat, about as shown in the midship sections. When this is out and fitted up in place, run a batten from the centerline of the beam forward to the stem. Also run two or three other battens from various points of this beam, dividing it up into, say, about four parts forward in a converging line, and on to the sheer of the boat. The shape of the remaining beam can then be obtained by taking measurements from these battens at the points at which the beams

rubbed down with an old glove until it is fairly smooth and allowed to dry for a couple of days before being painted. It will then be found that two or three coats will make a very smooth deck. No holes for hatches, etc., should be cut in the canvas before stretching, except probably where the canvas comes around the bitt if the bitt is already in place, and, if canvas in one piece is not easily procurable, have the various pieces, forming the deck, sewn together, overlapping the two parts about 3/4" and double-seam it.

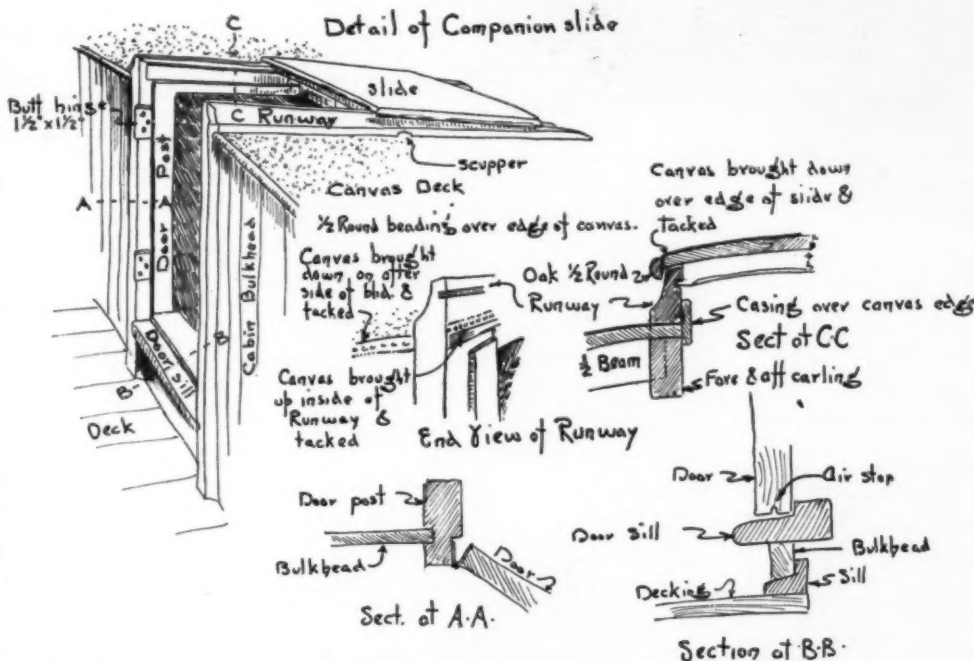
The cockpit floor beams should now be put in place and the cockpit laid. Give the cockpit a pitch fore and aft, so that the water will have a chance to run out of the scuppers; it is probably best to pitch the cockpit floor aft, as the boat will generally rise by the head when running, and the water will then run out more easily; it, however, has the objection, when the boat is lying at anchor with the people forward in the cabin, of making a pool of water directly in front of the companionway door. A scupper at the forward end, however, will rectify this. The cockpit flooring is best laid of about 3/8" or 3/4" boards, then covered with canvas in the same manner as is the raised

deck. You will then be assured of a tight cockpit. Bring the canvas up along the frames so that when the boat is sealed in, the ceiling will come down over the canvas. The cockpit should next be ceiled, and also the cabin. If the ceiling is of tongue and grooved stuff or put close together an air space should be provided at the top, so that there will be a circulation of air between the planking and ceiling to prevent the rotting of the hull.

The various bulkheads can now be put in place and are best made of T. & G. stock, veed

and center veed on both sides. The interior work can be put in according to the drawing, or as desired by the particular builder. The cockpit capping and the beading around the hull can now be put on. Too great care cannot be exercised in seeing that these are perfectly fair, as a bad sheer line will spoil the whole effect of the boat.

The most difficult thing in the joiner work will be the companionway slide and door and the sketch herewith appended may be of assistance in building it. Another thing that often mars an otherwise good-looking boat is the waterline. In order to put this on properly, measure down on the stem and stern board, using the figures given on the line plan, to the waterline. At these two points, running across at right angles to the fore and aft line of the boat level, two straight edges, if a chalk line is now stretched from one of these straight edges to the other, it can be drawn in at one end near the boat and out from the boat at any point at the other, so that it can be made to touch the side of the boat; mark these points, where the chalk line touches, at intervals of 2 or 3 feet along the side of the boat; run a batten through these points and fair it, then schreive the line in with an awl; it will then be an easy matter for one to paint the bottom up to the schreive.

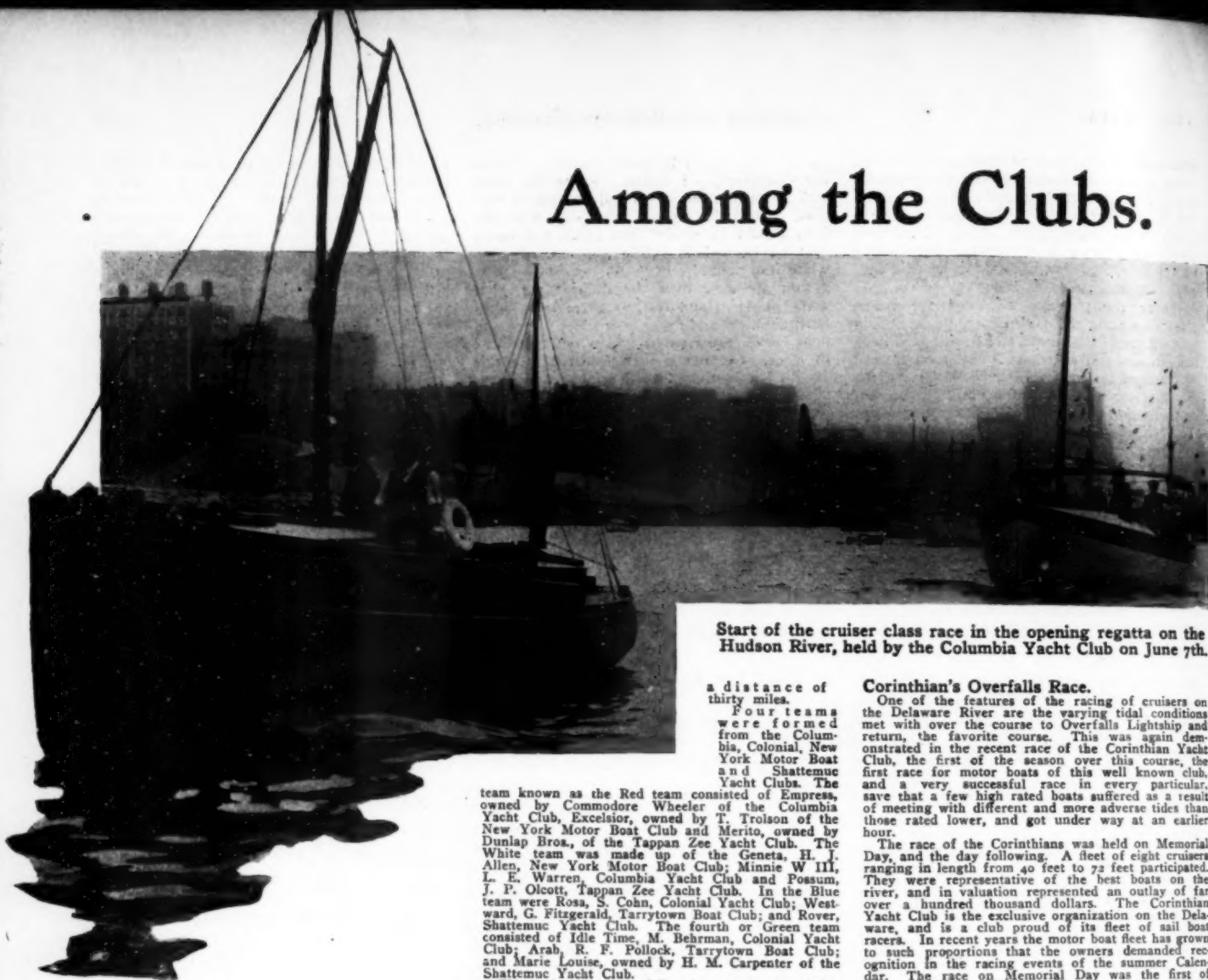


Very careful workmanship is required on the companionway and slide in order that it will work easily and still be watertight in the heaviest rain and seas.

are located. When these are out, they should be notched down over the clamp about an inch and attached to it by means of a large nail or screw, when in place, the decking can be laid. This shall be T. & G. stock, beaded and center-beaded on the under side, but smooth on the top side; be sure in laying it that the beams are straight across the boat before the decking is attached to them, and it will be found that a good deal of time will be saved if the under side of the decking is painted before it is put up in place. Smooth thoroughly the top of this deck; paint with old paint thicker than is generally used, and stretch over it tightly ten-ounce canvas. Tack it thoroughly along one edge and then get two or three of your friends to pull for all they are worth on the other side, while you, with a pair of rubber-soled shoes, scuff it in much the same manner as you have seen a man laying a carpet. When all the slack is taken out of it both fore and aft and thwartship, tack it along the edges; tack not over an inch apart. Do not wet the canvas as advised by some people. It will take less paint by doing this, but will not lay so smoothly.

When tacked in place, fill with silax filler which can be made up out of silax and oil with a little turpentine for drying purposes. The silax filler should be put on very thick and

# Among the Clubs.



Start of the cruiser class race in the opening regatta on the Hudson River, held by the Columbia Yacht Club on June 7th.

## Hudson River Yacht Racing Association's Relay Races.

On Memorial Day, the Hudson River between New York City and Poughkeepsie was fairly alive with motor boats racing under the colors of the Hudson River Yacht Racing Association. A year ago this association conducted a speed boat contest from the Coast to the Capitol, having a message from Mayor Gaynor, of New York, carried to Governor Dix at Albany, the various clubs along the route furnishing boats for the relays in their immediate vicinity.

This year another plan was tried whereby boats started from New York and Poughkeepsie at the same time and endeavored to carry messages to the other end of the route in the shortest possible time. Each club in the Association that had any speed boats in commission furnished two, one of which was known as the dispatch boat and did the actual carrying of the message, and the other acted as a relief boat, following behind the dispatch boat and being permitted to carry the message, should she overtake the regular dispatch boat.

The Eastern Star II, owned by E. L. Finch, started the north bound message on its way from the New York Motor Boat Club at 9:30 a.m., carrying it on an 18 mile leg to the Tappan Zee Yacht Club, where it was turned over to Onoto, owned by Geo. T. Byers at 10:30 a.m. The Onoto made the run to Haverstraw in 35 minutes, delivering the message to the Consuelo, owned by Capt. Jova of the Newburgh Yacht Club.

The run from Haverstraw to the Newburgh Yacht Club was made in the remarkable fast time of one hour and 40 minutes and the "Al Traver" owned by Capt. Traver of the Poughkeepsie Yacht Club received the message at 1:05 p.m. and in less than a minute had started his 15 mile run to Poughkeepsie which he completed in 32 minutes, arriving at the upper destination at 1:39 p.m. The total elapsed time for the 65 miles between New York and Poughkeepsie was 4 hours and 9 minutes, an average speed of 15.7 miles per hour.

On the down trip, the message of greetings from Mayor Frank, of Poughkeepsie, to the various Hudson River clubs was started on its way at 9:40 in the morning, being carried as far south as Newburgh by Capt. Traver in his speed boat "Al Traver." At the Newburgh Yacht Club, Capt. Jova picked up the message in his Consuelo at 10:07 and carried it as far down the river as Haverstraw Bay, where Geo. Byers received it at 11:45 in his Onoto.

The Onoto made a fast run down to Tappan Zee where the next dispatch boat Mibz was supposed to be in waiting, but for some reason, instead of being out in the stream, ready to relieve the Onoto, the Mibz was tied up at the float of the Tappan Zee Yacht Club and Onoto proceeded down to Yonkers in search of her, but finally returned to the Tappan Zee Club where the message was turned over to Capt. Conrow's Mibz of the Colonial Yacht Club at 1:15 p.m. This boat made the run to New York in one hour and five minutes and turned the message over to Commodore Pratt of the Colonial Yacht Club at 2:30 p.m.

Another race on the same day which proved very popular was the cruiser relay race from the Columbia Yacht Club, New York City to Croton Point,

a distance of thirty miles. Four teams were formed from the Columbia, Colonial, New York Motor Boat and Shattemuc Yacht Clubs. The team known as the Red team consisted of Empress, owned by Commodore Wheeler of the Columbia Yacht Club, Excelsior, owned by T. Trolson of the New York Motor Boat Club and Merito, owned by Dunlap Bros., of the Tappan Zee Yacht Club. The White team was made up of the Geneta, H. J. Allen, New York Motor Boat Club; Minnie W III, L. E. Warren, Columbia Yacht Club and Possum, J. P. Olcott, Tappan Zee Yacht Club. In the Blue team were Rosa, S. Cohn, Colonial Yacht Club; Westward, G. Fitzgerald, Tarrytown Boat Club; and Rover, Shattemuc Yacht Club. The fourth or Green team consisted of Idle Time, M. Behrman, Colonial Yacht Club; Arab, R. F. Pollock, Tarrytown Boat Club; and Marie Louise, owned by H. M. Carpenter of the Shattemuc Yacht Club.

The racing was especially close, each team being ahead during part of the run, but the White team successfully reached the finish line first. The boats carried a flag of their distinguishing color for a leg of about ten miles and then passed it to their relief boat which was waiting for them.

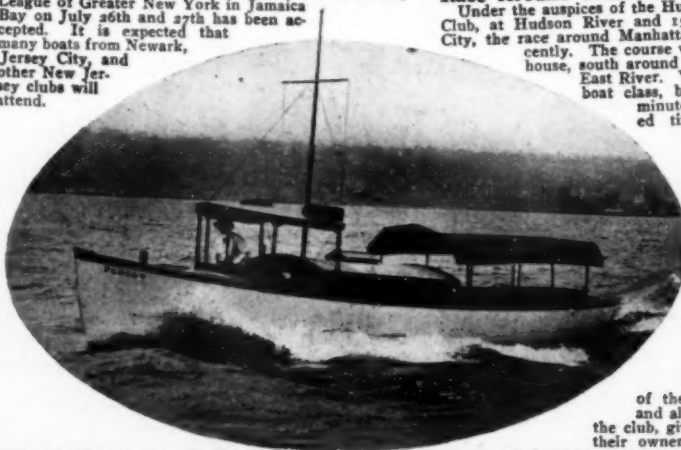
Over thirty boats took part in the various activities of the day and about 100 guests were present at the dinner which was served at Croton Point after the finish of the races.

## Red Bank Races.

Unless all signs fail the regatta of the Red Bank Motor Boat Club on July 4th, and 5th will be one of the most notable events held in the East this year. All the races will be open events and are divided into seven classes. Class A will be for cabin boats, class B for open boats, class C for speed boats of 26 feet and under, class D for speed boats over 26 feet and class E for hydroplanes, an event which it will be recalled furnished notable sport last year. Class F is a free-for-all for any type of boat up to 40 feet in length, sanctioned by the A. P. B. A., while class G is to be a mile trial against time, sanctioned by the A. P. B. A. and run under admiralty conditions. Handsome prizes have been provided in every class. There will be a first prize for each class and a second prize for all events in which four or more boats start. Charles F. Chapman, associate editor of Motor Boating will act as official measurer and will be at the Red Bank club house on July 3rd to rate all entries which have no official rating.

## Waterway League Outing.

The invitation extended to New Jersey yachtsmen to participate in the annual outing of the Waterway League of Greater New York in Jamaica Bay on July 26th and 27th has been accepted. It is expected that many boats from Newark, Jersey City, and other New Jersey clubs will attend.



"Fabian," a contestant in the open boat class at the Columbia regatta. This boat is powered with a 24-h.p. Lamb motor.

## Corinthian's Overfalls Race.

One of the features of the racing of cruisers on the Delaware River are the varying tidal conditions met with over the course to Overfalls Lightship and return, the favorite course. This was again demonstrated in the recent race of the Corinthian Yacht Club, the first of the season over this course, the first race for motor boats of this well known club, and a very successful race in every particular, save that a few high rated boats suffered as a result of meeting with different and more adverse tides than those rated lower, and got under way at an earlier hour.

The race of the Corinthians was held on Memorial Day, and the day following. A fleet of eight cruisers ranging in length from 40 feet to 72 feet participated. They were representative of the best boats on the river, and in valuation represented an outlay of far over a hundred thousand dollars. The Corinthian Yacht Club is the exclusive organization on the Delaware, and is a club proud of its fleet of sail boat racers. In recent years the motor boat fleet has grown to such proportions that the owners demanded recognition in the racing events of the summer calendar. The race on Memorial Day was the first of these. The prize offered was a handsome cup by the Commodore, G. W. C. Drexel.

The following is a complete summary of the race:

Boat and Owner.	Length.	Rating.	Time Allowed.	Corrected Time.
Caliph, M. E. Brigham	60 ft.	44.1	3:29:16	12:18:43
Dream, Charles L. Lagen	40 ft.	37.0	6:16:44	12:27:12
Ponce, Philip F. Dupont	50 ft.	43.7	3:37:07	12:53:03
Marguerite II, A. B. Cartledge	72 ft.	52.4	1:11:07	13:05:17
Barbara II, W. M. Duncan, N. Y.	51 ft.	50.3	1:41:36	13:37:05
Black Duck, Alexander Sellers	50 ft.	58.0	Scratch	14:16:26
Elfin, A. W. Gibbs	51 ft.	46.9	2:35:48	14:51:36
Shark, Samuel H. Colom	43 ft.	48.7	2:05:45	15:15:30

## Dancing Pavilion for Buffalo Club.

At a recent meeting of the Buffalo Motor Boat Club, held at the clubhouse on Motor Island, Commodore W. J. Connors announced that, if the club members would give him 100 new members within a week, he would present the club with a \$3,000 dancing pavilion. Under the enthusiastic urgings of Past Commodore Crique, president of the Sterling Engine Company, 106 new members were guaranteed and the plans were drawn up for the erection of the pavilion, which was started on June 2nd. The annual Buffalo Regatta will be held on the Niagara River, September 2, 3, 4, 5 and 6th, in connection with the Ferry Centennial celebrations.

## Race Around Manhattan.

Under the auspices of the Hudson River Motor Boat Club, at Hudson River and 151st Street, New York City, the race around Manhattan Island was held recently. The course was taken from the club house, south around the Battery and up the East River. Valiant won in the open boat class, beating Bunk III by 2 minutes, 47 seconds, corrected time. The winners in Classes B and C respectively were the Yenoar and the Eleanor. The fastest time over the course was 2 hrs. 38 min. 26 sec., made by Bunk III. Trophies were awarded for each class.

## Chippewa Booklet.

The Chippewa Yacht Club, of the Thousand Islands has forwarded to us their neat little booklet for 1913, containing a list of the officers and members and also a list of the boats in the club, giving in tabulated form, their owner, length, beam, horsepower and manufacturers of the motors.



**California A. P. B. A. Races.**

The California section of the A. P. B. A. held their long distance race from Cache and Miner Slough to Sausalito recently, in which Encinal took first place with an elapsed time of 7 hrs. 10 min. 10 sec., and the Speedwell, second, in 8 hrs. 20 min. 3 sec. The annual regatta of this section will take place on July 4th and 5th, and will consist of handicap races, restricted class racing and a scratch race for cruising boats, besides several others.

**Sacramento Cup Race.**

The Bernard Klune Memorial Challenge Cup Race to Courtland and return was held under the auspices of the Sacramento Boat Club. The entrants in the race were the Hazel D., Hoot Mon, Jess and the Louise, the latter winning with 11 3/4 minutes to spare. In the Heat Race between the Frank W., Melbiss and Netherlands, the Frank W. carried off the trophy. Other victors in the various contests were the Roustabout (twice) and the Elizabeth.

**Blackton Speed Trophy.**

J. Stuart Blackton, commodore of the Atlantic Yacht Club, has offered to the Buffalo Motor Boat Club, a trophy to be known as the J. Stuart Blackton Speed Trophy, to be raced for during the coming season on the Niagara River. It can be a perpetual challenge trophy to be held each year by the boat winning same or can be raced for on terms similar to those governing the E. K. Thomas trophy, as the club sees fit. It is assumed that the club regatta committee will be glad to accept the trophy and will give it the prominence it deserves.

**To Race to Frisco.**

Motor boat races from Sandy Hook and Chicago through the Panama Canal to the Golden Gate, in which the highest speed motor boats of the world will compete, will be one of the most interesting of the



Trophies to be contested for at the 4th of July regatta of the Red Bank Motor Boat Club.

series of the events in connection with the sports' program of international interest to be held under the auspices of the Panama-Pacific International Exposition in San Francisco, in 1915. In case of the race from Chicago, the route will be through the drainage canal to the Mississippi, thence to the Gulf and thence through the Canal to San Francisco. The Sandy Hook race will follow the Atlantic Coast to the Gulf and thence through the Canal to San Francisco. The

conditions are to be announced shortly and it is planned to have the race early in the summer of 1913.

**British International Trophy.**

The Royal Motor Yacht Club has received a notification from the Automobile Club de France that, in addition to the three boats which have already been entered to represent France as challengers for the British International Trophy this year, two new boats have now been entered. The Automobile Club de France is arranging to hold elimination trials to select their team of three boats for the contest. France has not been a competitor for the trophy since 1905, and the fact of five new boats being built to support the challenge of the Automobile Club de France is evidence that interest in the coming struggle is equally as keen on the other side of the Channel as it has already proved to be in England and the United States. The fitting out of Mr. E. Mackay Edgar's Maple Leaf IV has already been commenced and it is expected that Mr. Dan Hanbury's Silver Heels will be out shortly.

**Hamilton Celebration.**

The Royal Hamilton Yacht Club has completed plans for holding motor boat races and other sports on August 15th and 16th to consist of free-for-all, handicaps, displacement boat races, bang-and-go-back races and a 20-mile handicap international motor boat race. All events will be over a five-mile triangular course. The races are in connection with the Hamilton Centennial Industrial Exposition, August 11th to 16th, to commemorate the one hundredth anniversary of the incorporation of Hamilton as a village and to celebrate the hundred years of peace among English speaking peoples. The Royal Hamilton Yacht Club and the Centennial Aquatic Sports Committee are working together in promoting the races, and visiting motor boats and yachts will be welcome at the club. The committee in charge of the races are: H. B. Greening, D. P. Brown and W. G. Smart, Chairman, Rear-Commodore Royal Hamilton Yacht Club.

# The Perry Centennial Carnival.

**Motor Boat Racing Programme That Will Make This One of the Notable Events of the Present Year. Rules That Will Govern the Races in the Various Classifications.**

It is a peculiarly happy thought, this of having the modern motor boat hold so large a share in the celebration of Commodore Perry's victory on Lake Erie in 1813, for by so doing we have not only a fete commemorative of one of America's greatest naval victories, but an object lesson also in the development of marine motor power. When Commodore Perry raised his "Don't Give Up the Ship" flag to the masthead he was undoubtedly satisfied that his old Frigate with her ten miles per hour possibilities had touched the high water mark of marine construction. Steam was as yet a tiny cloud on the horizon of transportation. The century that has passed has served not only to bring steam to its present approximate perfection but has witnessed the birth of an even mightier power that will be well exemplified in the great fleet of motor boats that will gather at Put-In-Bay to take part in the celebration. And in recalling a great American victory, let us not forget that the real significance of this celebration is found in the hundred years of peace that have subsisted between the English speaking countries and in the continued growth of good feeling and mutual understanding to which the international racing of motor boats has contributed its mite.

That the Perry Centennial Regatta and National Motor Boat Carnival may be conducted in befitting fashion, there has been raised \$12,500, in addition to which there are the perpetual trophies offered by the National Association of Engine & Boat Manufacturers and the numerous privately donated trophies.

The National Motor Boat Carnival is an annual power boat regatta, instituted in 1905 by the National Association of Engine and Boat Manufacturers. Each renewal of the carnival has been marked by greater enthusiasm than the one before it and many notable records have been made at these regattas.

That the speed boat events might be conducted under the most perfect obtainable conditions, the Inter-Lake Yachting Association selected Toledo, because of the admirable facilities offered by the speedway course on the Maumee River, in the heart of the city. The city of Toledo has appropriated \$5,000 to be spent during the two days of racing there.

Toledo is exceptionally well equipped for handling boats of the racing type; a number of cranes are available for unloading directly from the cars to the river. Within a quarter

of a mile of the starting line are four marine railways capable of taking care of boats up to 100 feet, and the protected waters of the Toledo Yacht Club lagoon give exceptional docking facilities for any number of boats. Gasoline and lubricating oils may be had at the starting line in sealed cans.

The Perry Centennial Racing events and the National Association races will be conducted entirely separate by reason of specific conditions outlined in the deeds of gift of the latter organization's trophies. These trophies number five in all, as follows:—

The International World's Championship Trophy is offered to challengers in Class C, speed boats under forty feet over-all length, course thirty miles, no handicap, flying one gun start. There are three heats for this trophy and winner determined by point system.

The National Championship Trophy is open to challengers in Class B, speed boats of forty feet or more over-all length, course of twenty-one miles handicap race, boats starting on their handicap time allowance, race of three heats and winner determined by point system.

The Interstate Championship Trophy is open to challengers in Class A, speed boats under thirty-three feet over-all length, course of twenty-one miles handicap race, boats starting on handicap time allowance and winner determined by point system.

The Motor Yacht Championship Trophy is open to challenge for boats in Class D, motor yachts of sixty feet or more over-all length, course of twenty-one miles handicap race, starts made on handicap time allowance, winner determined by point system.

Cabin Launch Championship Trophy is open to challengers in Class E, cabin-launch type of boats forty to sixty feet over-all length, course of twenty-one miles handicap race, all boats started on their handicap time allowance, winner determined by point system.

All of these trophies must be challenged for at least ten days before the races by some regularly organized club, such challenges to be filed with the Secretary of the Inter-Lake Power Boat Regatta Committee. Subsequent entries will be received up to July 26. Measurements made by the official measurer of the challenging club must be filed with the entry. Measurements will not be made during the regatta and the above certificate from the local club measurer is essential to the entries' acceptance.

The conditions governing the events in the

Perry Centennial Regatta give the regatta committee of the Inter-Lake Yachting Association absolute control over all questions arising in connection with the contests. The only restrictions in these races will be in lengths.

The committee's decisions shall be based on rules as published, but as no rules have ever been devised capable of meeting every incident and accident of sailing, the committee will keep in mind the ordinary customs of the sea and discourage all attempts to win races by other than superior skill and speed. The decision of the regatta committee will be final.

Prizes for Perry Centennial Events will be awarded in cash or merchandise at the option of the winner. It will be necessary, however, for the entrant in any Perry Centennial Event to declare on his entry blank whether he will accept cash or merchandise prizes.

Arrangements have been made whereby the revenue cutter Morrill will patrol the course, assisted by other boats to be designated by her captain.

Two of the most notable events of the combined races will be the great hydroplane free-for-all at Toledo, Ohio, on July 29. The first prize in this event will be \$1,500, the championship flag and a cup, the second \$800 and the third \$500. Then there is the hydroplane free-for-all at Put-in Bay on August 2, in which the first prize is \$500, the second \$300 and the third \$200. Nor must we forget the special race between Commodore Gowan's Speejacks and Carl Fisher's Shadow.

Altogether, the regatta committee is justified in referring to the celebration as a "rare treat" for motor boat enthusiasts.

The classification of boats under the two separate sets of races is as follows:

## NATIONAL ASSOCIATION OF ENGINE AND BOAT MANUFACTURERS' CARNIVAL.

Class.	Type.	Measurements.
A	Speed	33 ft. and under
B	Speed	40 ft. and over
C	Speed	Under 40 ft.
D	Cruiser	60 ft. and over
E	Cabin Launch	40 to 60 ft.

PERRY CENTENNIAL REGATTA.		
Class.	Type.	Measurements.
L	Hydroplane	Under 20 ft.
R	Hydroplane	Under 26 ft.
S	Hydroplane	Under 32 ft.
T	Hydroplane	Under 40 ft.
D	Cruiser	60 ft. and over
E	Cruiser	40 to 60 ft.
F	Cruiser	Under 40 ft.



# MARINE MOTORS



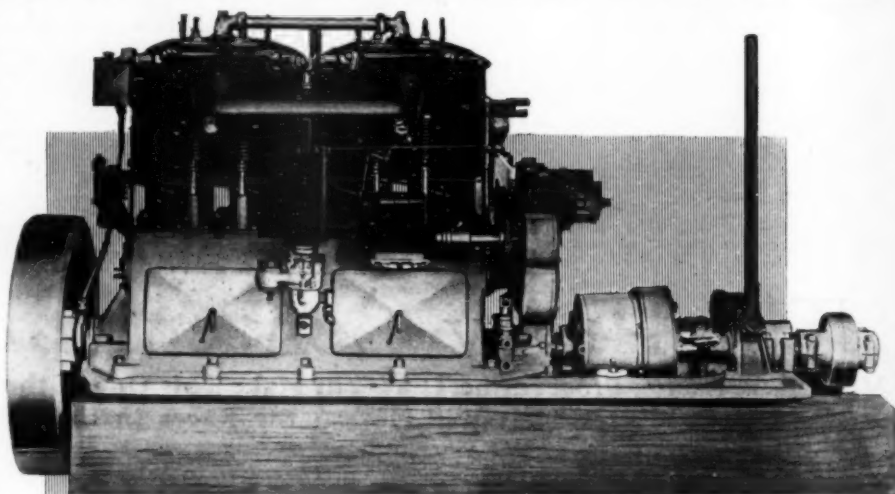
## A Sterling with Lighting Dynamo.

Provision on the New Heavy Duty Sterlings for an Electric Lighting Outfit and Self Starters.

**T**HE new Sterling heavy engines can be equipped with the Holtzer Cabot electric dynamo, as shown in the illustration; the dynamo being built right into the engine and driven by a silent chain from the magneto shaft, making a highly efficient and noiseless piece of mechanism that does its work quietly, precisely and continuously and without any attention from the operator of the engine.

These new Sterling engines can also be equipped with the Rushmore electric engine starter, a starter absolutely free from ratchets, friction clutches, shifting levers and other mechanical complexities.

The Rushmore starter, when attached to a Sterling engine, acts directly on the flywheel without intermediate gears, a pinion keyed fast on the motor shaft meshing with a gear on the flywheel. This pinion is normally out of engagement. The closing of the starting switch causes the pinion to automatically engage the flywheel gear before the armature of the motor starts rotating. As soon as the engine picks up, the pinion automatically and silently slides out of mesh. There is no mechanism whatever except the starting motor itself and the starting switch. The motor has a turning force at the flywheel in excess of 400 pounds, which is largely in excess of the force developed by ordinary engine starters.



Heavy duty Sterling motor with Holtzer Cabot lighting dynamo attached.

The motor is wound for a 6-volt battery to avoid complications resulting from use of different voltages for starting and lighting. This

starting equipment has been thoroughly tested out by the Sterling Engine Co. and found to be very practical and efficient.

## New Four-Cycle Erds.

A Light Weight and a Medium Weight Model of Four Cylinders 4" x 5".

**F**OR some time past the Erd Motor Co., of Saginaw, Mich., have been developing two types of four-cycle motors of medium horsepower suitable for medium and high speed work. This motor is rated at 25 h.p. and has four cylinders cast en bloc.

This new Erd production is a marine motor which contains every refinement of the high grade automobile engine, giving the same service and control in a boat that is obtained in an automobile. By the expenditure of a large amount of money in building special machine tools and jigs and by manufacturing these motors in extremely large quantities, the Erd Motor Company is able to offer to its customers a motor that is of the highest design and of the best material at a reasonable price.

The light weight high speed type makes a desirable equipment for hydroplanes and fast runabouts or wherever the motor is placed under a hood in the forward compartment. The medium weight type is recommended for cruis-

ers and other heavy boats where weight is not an essential factor.

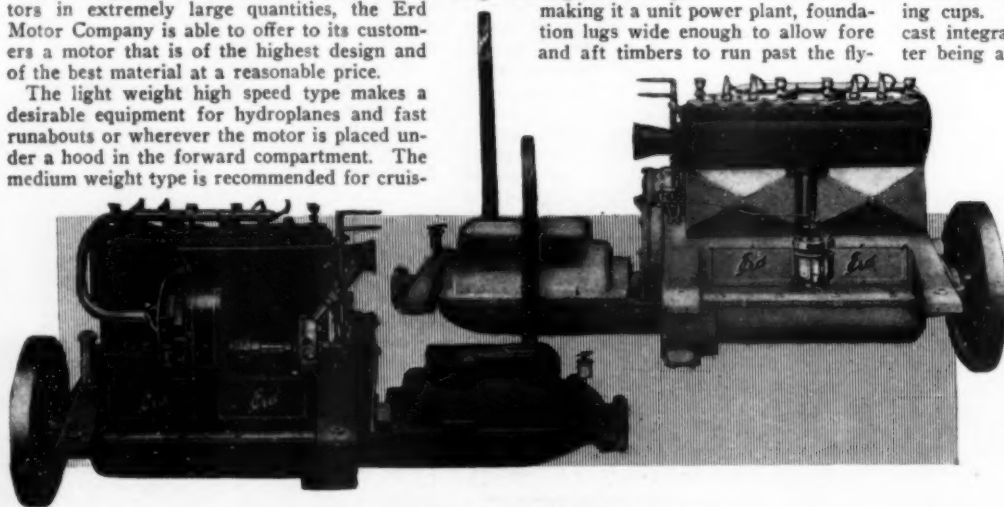
The high speed type is equipped with aluminum crank-case, clutch cover, hand hole plates, water cover, etc. On the medium weight type these parts are made of cast iron. The bore of this motor is 4 inches and has a stroke of 5 inches. A few of the features for which the new Erd motors are noted are perfect control when running idle or under full load, no vibration, easy starting, every bearing absolutely interchangeable, a positive oiling system, large bearings, reverse gear on extended base making it a unit power plant, foundation lugs wide enough to allow fore and aft timbers to run past the fly-

wheel, thereby making it possible to install a foundation much stronger than the ordinary way. All parts are easily accessible and interchangeable and the motor is handsomely finished.

As will be seen by the accompanying photographs, the valves are all arranged on one side of the cylinder block and are entirely enclosed by a pair of cover plates which are fastened in position by central studs and thumb nuts. Screw caps are placed above the valves and these caps are bored and threaded to receive the spark plugs and priming cups. Intake and exhaust manifolds are cast integral with the cylinders, the carburetor being attached to a straight pipe, flanged and bolted to the manifold. An interesting and clever detail is the plate cover forming the top of the water jacket.

On the opposite side of the motor from the carburetor is the magneto, which is driven by an extension of the pump shaft, through a universal coupling. The wires to the plugs are run through a tube provided with outlets at the plugs so that the total amount of exposed terminal wire connections is exceedingly small.

All moving parts are thoroughly enclosed and yet through the provision of easily detached covers they are quite readily accessible.



The two new Erd four-cycle marine motors.



# Curtiss Light Weight Motor.

An Engine Weighing Only Three Pounds per Horse Power Suitable for Hydro-Aeroplane and Light Speed Boat Service.

THE Curtiss Aeroplane Company, of Hammondsport, N. Y., have placed upon the market a light-weight, water-cooled motor, which is suited not only for hydro-aeroplane work, but should prove equally as efficient in many of the light-weight hydroplanes that are now being built. This motor is designed for operation at moderately high speeds and develops 106-brake horsepower at 1,800 r.p.m., and is rated 90-100 h.p.

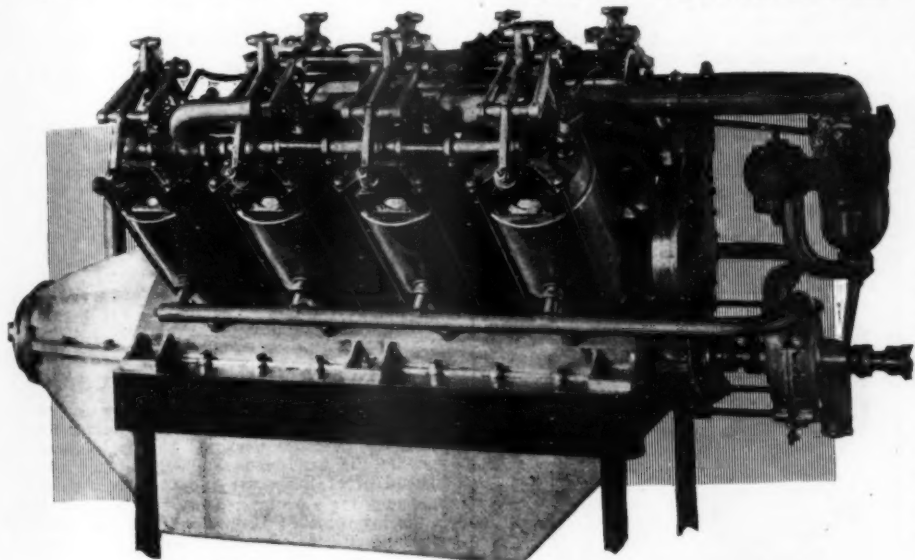
The crankcase is cast of special alloy, almost as light as aluminum, and, approximately, 50% stronger. It is webbed to insure a wide margin of safety, and these webs, at the same time, provide support for the five main bearings of the shaft, and make four divisions, or separate oil pockets in the case, so that each throw of the shaft is properly lubricated, regardless of the angle at which the machine may be traveling. The lower half of the crank-

case has a splash pan and a reservoir holding sufficient oil for a run of six hours. It is especially designed for cooling of the oil which seldom rises in temperature above blood heat. Separate compartment for the gears is cast at one end of the case and fitted with an oil-tight cover. The main bearings are of high-speed motor babbitt, die cast and interchangeable. The case is reinforced for the slider guide holes.

Crankshaft is made of chrome nickel steel, turned from solid billets and very carefully ground. The propeller flange and the bevel gear, which drives the submerged oil pump, are forged integral with the shaft. For the double purpose of lightening the shaft and providing force-feed lubrication for the connecting rods and main bearings, the mainshaft and all throws are bored out. The holes are securely capped, drive-fitted and pinned.

The cylinders are almost perfect tubes with spherical heads and valve-stem guides cast integral. This form of cylinder with the valves in the head insures a theoretically perfect combustion chamber. The system was introduced in Europe some years ago by Glenn H. Curtiss, in the eight-cylinder "V"-type motor he used there in winning the Gordon Bennett cup at Rheims, in 1909.

Eight studs are used in attaching each cylinder to the crankcase. In addition to these small studs, there are four studs 11 inches long, extending from the flange in the crankcase to a yoke over the top of the cylinder. This form of reinforcement makes cylinder breakage so nearly impossible that the Curtiss Company has never received a report of a broken cylinder since the system was adopted.



Curtiss aeroplane motor weighing only 3 pounds per horsepower.

## Bridgeport Kerosene Motor.

The Regular Bridgeport Model with a Few Minor Changes which will Readily Operate on Kerosene or Gasoline.

FOR a number of years there has been a growing demand for kerosene motors, both in this and in foreign countries. The earlier motors sent out to run on this fuel were equipped with nothing more than a hot pipe, located near the exhaust, and connected to the intake of the carbureter, in order to supply warm air. This permitted operation on kerosene to some extent, but did not permit complete vaporization, and thus caused considerable loss of power over gasoline, excessive deposit of carbon, inflexibility, etc.

The Bridgeport Motor Company have, for several seasons, been getting ready to produce a kerosene motor, not feeling justified in placing an engine of this type on the market until it had been thoroughly tested out, and become absolutely reliable. This company did not feel justified in handing out some makeshift and have, consequently, developed a kerosene motor, which is thoroughly reliable from every standpoint.

The oil transformer is the result of a vast amount of experimenting with all sorts of kerosene devices. It consists of a double heating system, which positively causes complete vaporization. It is attached to the three-port ignition system, and the heated gases are transferred from the carbureter to the base chamber, and from there to the explosion chamber. The vapor is not in the form of a hot dry gas, as it has been proved that it is a decidedly moist vapor, which tends to assist lubrication, rather than to injure it.

The equipping of a straight gasoline motor with this oil transformer is not sufficient to gain the results necessary to produce a successful kerosene motor. There are a few

slight constructional alterations which the Bridgeport Company make upon their motors, which combine to bring them success.

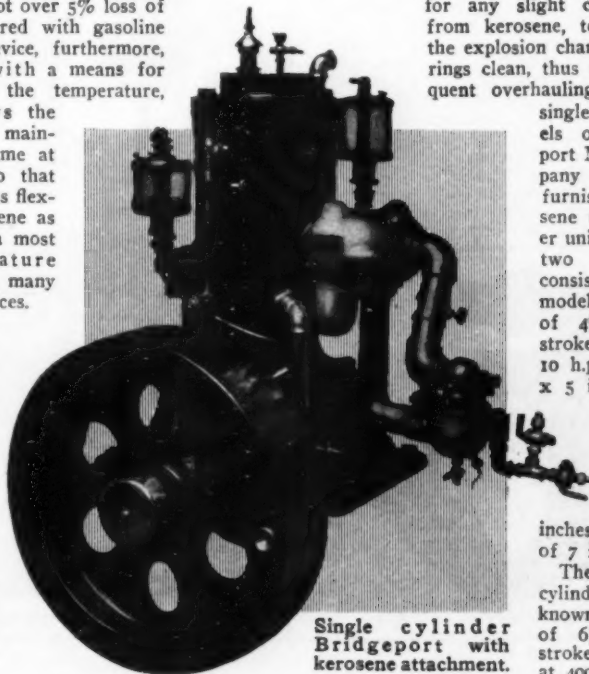
What this company has actually accomplished with their kerosene motor is complete vaporization, which means complete combustion, not over 5% loss of power, compared with gasoline fuel. The device, furthermore, is provided with a means for regulating the temperature, which allows the heat to be maintained the same at all speeds, so that the motor is as flexible on kerosene as on gasoline, a most important feature lacking on many kerosene devices.

The Bridgeport kerosene motor is started on gasoline in order to give a quick method of getting under way, which is not possible with the torch systems. Before com-

pleting the day's run, the motor is turned back from kerosene to gasoline so as to be ready for the next starting. There are several decided advantages in the use of gasoline besides the ease of starting, one being that the gasoline vapor acts as a solvent for any slight carbon deposits from kerosene, tending to keep the explosion chamber and piston rings clean, thus eliminating frequent overhauling. Besides the

single cylinder models of the Bridgeport Motor, this company is prepared to furnish their kerosene motors in larger units as well. The two cylinder sizes consist of an 8 h.p. model having a bore of  $4\frac{1}{2}$  inches and stroke of 5 inches, a 10 h.p. size,  $5\frac{1}{4}$  ins. x 5 ins.; one of 14 h.p.  $5\frac{1}{2}$  ins. x 6 ins.; and an 18 h.p. marine motor with a bore of  $6\frac{1}{2}$  inches and a stroke of 7 inches.

Their 27 h.p. three-cylinder motor is well known. It has a bore of  $6\frac{1}{2}$  in. and a stroke of 7 in., rated at 400 r.p.m.



Single cylinder Bridgeport with kerosene attachment.

# New Things for Motor Boatmen

## The Leece-Neville Starting and Lighting System.

The Leece-Neville lighting and starting system includes an electric generator and storage battery, and an electric motor independently connected to the engine for cranking purposes. The electric generating and storage plant commences operation as soon as the engine starts by generating current in the generator. This first current flows from the generator through the winding on the magnet until the energy is sufficient to attract and close the armature. This action closes the charging contacts when the bulk of the current flows through the heavy wire winding to the battery and the energy is there stored for use in cranking and lighting. The motor is electrically connected to the battery through the magnetic starting switch by operating a push button switch. The motor thus energized, cranks the engine at about 120 r.p.m., until it starts. An over-running clutch in the gear case permits the engine to run without turning the electric motor. The makers are the Leece-Neville Company, of Cleveland, O.

## A Combination Binnacle Steerer.

This binnacle is built of polished bronze metal throughout. The lower casing, which carries the adjustable lead blocks, can be bolted directly under the deck or lowered down under the cabin floor. The tiller ropes can be run at any angle from perpendicular to horizontal, and either across boat between carlins or direct aft. A simple and positive locking device is fitted and can be supplied with motor controls and bell pulls. It is equipped with Ritchie compass, revolving cone-head for taking bearings, oil and electric lights, quadrantal-ball, heeling magnet and Negus rack and pinion magnet-racks operated by key from the outside. The binnacle steerer is manufactured by the Seaman Motor and Launch Works, of Long Branch, N. J., and marketed by T. S. & J. D. Negus, of New York City.

## Kero-Mix.

This fuel mixer is designed to produce more perfect combustion and an increased mileage. It consists of a flange which is placed between the flanges on carburetor and intake manifold. The mixer is connected by copper tubing to an automatic air valve. The air is admitted to the intake manifold through a series of small holes in the periphery of the flange opening in such a manner as to form a wall of air through which the inrushing gas must pass, resulting in both being thoroughly mixed. A priming tank and a spray nozzle screwed into the intake manifold are

also features of the Kero-mix outfit, which costs \$15 and is made by F. W. Patterson, Inc., of Chicago, Ill.

## The Kennedy Carbureter.

The Kennedy is a mechanical carbureter which is designed with a view to facilitate ease of starting under extreme weather conditions. A feature is the arrangement which provides the maintenance of a small pool of gasoline which is taken up on cranking and which accumulates again as soon as the engine is stopped. A by-pass tube is provided to insure a correct mixture for very slow speeds. Two adjustments only (those of the low and high speed needle valve) are necessary and

the only air inlet is provided with a large diameter hot air tube to exhaust pipe, as shown in illustration. The Kennedy costs from \$25 to \$40, according to size, and is made by the L. D. Robbins Co., of Lynn, Mass.

## The Cello Searchlight.

The Cello Searchlight is designed to give efficient service on a low voltage system. Lights are fitted with flush deck socket or bulkhead brackets, and another feature is the ball and socket joint which permits the light to be thrown in any direction without detaching it from the stand. By turning the thumb nut the light may be used as a hand lamp. We also illustrate the pilot house control model, which can be instantly taken out and put away for safety. The searchlight costs \$14, with 8 c. p. 6-volt bulb, 24 inches of waterproof cord and deck socket, or with focusing screw \$16. The makers are the A. S. Campbell Company, of Boston, Mass.

## A New Life Preserver.

The Universal Safety Mattress Company, of Baltimore, Md., have produced a pillow life preserver which is designed to supply buoyancy at the head and shoulders of the user instead of at the waist and to maintain this buoyancy for a protracted period. This pillow is the invention of Lieut. Evans, of the U. S. Revenue Cutter Service, retired, and Java Kapok enters largely into its construction. Mattresses are also made of this substance and it is used in boat and chair cushions.

## Triple Chime Bellows Whistle.

Walter Coleman & Sons, of Providence, R. I., are now supplying their triple chime whistle with bellows attachment. The outfit is strongly made and will pass U. S. Revenue inspection, and it is stated that a clear and powerful warning note may always be relied on. The whistle itself is made of nicked brass, and the cost of the outfit is \$5.00.

## The Triple Stage Hydro-Carbon Converter.

This is a device which utilizes the exhaust heat from the engine for the purpose of causing a complete chemical change in the liquid fuel before this is admitted to the engine. All oils are converted into a fixed gas and are so dissociated that the introduction of water to supply the necessary hydrogen for breaking up the particles of carbon is unnecessary; in fact, the converter may be accurately termed a producer of oil gas. The fuel, consisting of kerosene, distillate or fuel oil, is carried through three refining stages, including heating in a retort filled with a



Leece-Neville Cranking motor —

Kennedy carburetor.

Cello searchlight.

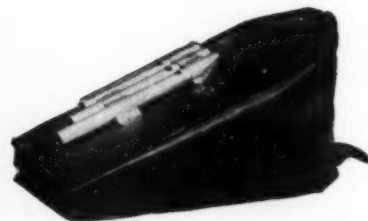
A combination binnacle steerer.



Kero-mix.



A new life preserver.



Triple chime bellows whistle.





Nospill funnel.

Benton spark plug.

"Golden-Glow" searchlight.

National reverse gear.

Caille portable boat motor.

porous mineral substance which absorbs the oil. The converter may be applied to any internal combustion engine without alteration. There are no moving parts other than an auxiliary air valve and as gasoline may be used, the user can discard the ordinary carburetor altogether. The manufacturers are the Hydro-Carbon Process Co., of Denver, Colo.

### The Nospill Funnel.

This is a funnel which is so designed that overflowing is prevented and the rise of liquid in the tank is shown, while, in addition, a means of stopping the flow is provided. When the gasoline or other liquid has reached the desired height, as shown by the central indicator, further flow is instantly stopped by lifting the funnel ring, which closes a spherical brass valve at the lower orifice of the discharge tube. The funnel is made of enameled lead-covered steel and polished brass; it is of five-quart capacity and a gasoline filter is fitted. The makers are the F. L. Hoaglin Mfg. Co., of Waupaca, Wis.

### The Benton Plug.

The insulator in the Benton spark plug is composed of sheet mica, spirally-wound and forced with great pressure into a taper hole in the case-hardened steel bushings. This not only insures a perfectly gas-tight joint in the plug, but at the same time produces an insulation, which, it is claimed, will neither crack nor disintegrate under the heat of the motor, nor absorb oil from the cylinders. The electrodes are of extra heavy wire, drawn from a special alloy of platinum and nickel designed to neither fuse nor corrode. The Benton plugs are made, in all sizes and types, and to suit all conditions, by L. F. Benton Company, of Vergennes, Vt. They cost \$1 each.

### The "Golden-Glow" Searchlight.

The Esterline Company, of Indianapolis, Ind., makers of the well-known "Golden-Glow" series of lamps which are fitted with glass reflectors, polished, plated and coppered, with a view to insuring unusual transmission of light through rain or fog, also manufacture the searchlight which we illustrate. These are made in two sizes, the larger, which is 15½ inches in diameter, is capable of utilizing a 100 c. p. lamp, while the smaller is 11¼ inches and is suitable for a 25 c. p. bulb. Provision is made for rapidly focusing the light by means of a thumbscrew.

### The Dyer Oxy-Acetylene Outfit.

The Dyer oxy-acetylene outfit is intended for welding, brazing, straightening or soldering and consists of reducing valves for both gases, a torch with six tips, two ten-foot lengths of hose with connections, lighting tank connection, wrenches, iron and bronze flux, aluminum and steel welding material. The entire outfit is contained in a compact box and costs \$75. The makers are the Dyer Apparatus Company, of Boston, Mass.



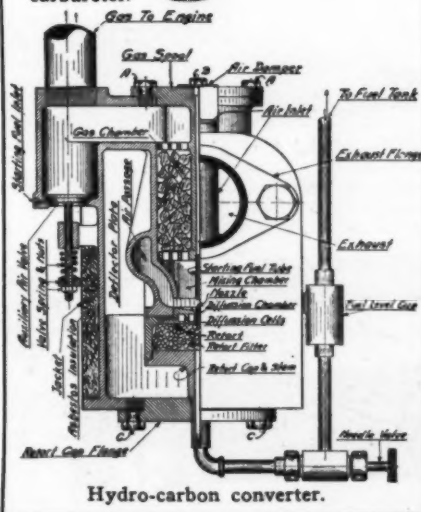
Dyer oxy-acetylene outfit.



Jacobson oil gas producer.



Eiker carburetor.



Hydro-carbon converter.

### Jacobson Oil Gas Producer

The Jacobson oil gas producer is a device which can be readily attached to any gas or gasoline engine. Its use is designed to effect a large saving in cost of fuel in marine engines, as the less refined non-explosive fuels, such as ordinary kerosene, distillate, gas oil or alcohol, may be used instead of gasoline. The producer is in part a muffler attached to the engine in the same manner or it may be built in place of the exhaust manifold and in this way a saving of space can be effected. The engine is started in the ordinary way and when running a few minutes the kerosene is turned on and the gasoline off. If desired, a plant can be made for all these operations to be made automatically, entirely controlled by the heat. The type A producer costs from \$60 up, and is made by the Jacobson Gas Engine Company, of Saratoga Springs, N. Y.

### The National Reverse Gear.

The National reverse gear is of the planetary type with gears running in an oil bath. The forward clutch is of the internal expanding type with cam shaped cold rolled steel expander, the reverse clutch being a heavy cast iron band. The gears, which are made of hardened machine steel, have stud teeth at a 20 degree pressure angle. Shafts are made of polished cold rolled steel with high grade bronze bushings and steel cone. The controlling lever is a malleable iron casting with a bronze machine yoke which operates the cone. The price of the gear, which is designed for engines capable of transmitting about 4 H. P. at 500 R. P. M. or 8 H. P. at 1000 R. P. M., is \$10.00. It is made by the National Gear Company, of Detroit, Mich.

### The Caille Portable Boat Motor.

This portable motor is intended for use on any ordinary row boat. It can be set at any angle or depth and is steered by a rudder, giving full control whether the motor is running or not. It is clamped to the boat in such a way as to eliminate vibration, and all parts which come in contact with water are made of special anti-corrosion bronze bearing metal. The manufacturers are the Caille Perfection Motor Company, of Detroit, Mich.

### The Eiker Carburetor.

Simplicity of construction and operation combined with extreme efficiency are the principal claims made for the product of the Eiker Carburetor Company, of 1790 Broadway, New York. There are only two adjustments, one for air and the other for gasoline, and the location of the spray nozzle in the middle of the throttle disk at the point of greatest suction eliminates the use of a Venturi tube and extra air valve. A tapered adjustable needle moving backwards and forward and automatically supplying an increase of fuel with the opening of the throttle and similarly decreasing it with the closing is intended to eliminate multiple jets and extra adjustments.

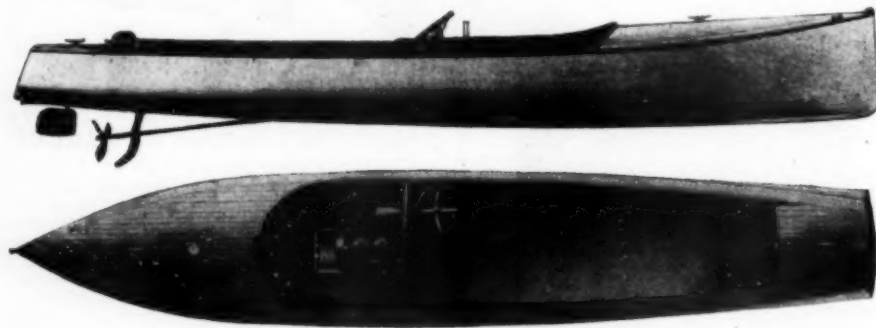
# Boats of Stock Design

## Cleveland 25-Foot Runabout.

THE Cleveland Auto Boat Manufacturing Company, of Cleveland, Ohio, build a mahogany finished 25-foot runabout, engined with an 11 h.p. two-cylinder, two-cycle

fitted. The floor is of cedar or pine at the option of the buyer.

The fittings are polished brass stem band, chocks and cleats; steel rudder with bearings top and bottom, and polished brass steering wheel with mahogany handles and drum. The tiller is placed under stern deck.



Cleveland 25-foot runabout.

Ferro engine with reverse gear, rear starting device and electrical equipment at a cost complete of \$775.

The frame and engine bed are of oak with rock elm ribs, spaced 7 inch centers. The deck clamps are of clear, hard pine with hard maple deck carlins and coaming knees.

The planking is of Southern cypress put on by the hollow and round system, edge nailed and copper fastened to ribs. The floor is of pine, covered with linoleum. Ceiling and bulkhead are of mahogany, with seats of the same wood copper and brass fastened.

The galvanized gasoline tank is of 18 gallons capacity, provided with a safety overboard drain and connected to the carburetor by 3/4 inch seamless copper tubing in one length. Air tanks of sufficient capacity are fitted under forward and aft decks.

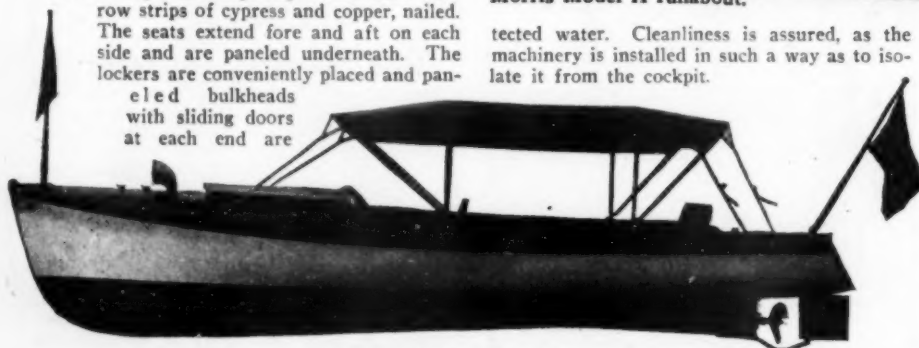
The under water exhaust is installed close to engine in forward cockpit, and both steering gear and engine control are mounted on the lower bulkhead in forward end of cockpit, the former being connected to the tiller by steel heart steering cable. The rudder measures 10 x 14 inches.

## The 23-Ft. Racine Special.

THE Racine Boat Company, of Racine, Wis., are manufacturers of the 23-footer which we illustrate. This boat has a beam of 4 ft. 6 ins. and draws 22 ins. The price with 12 h.p. motor complete is \$1,170.

The frame and ribs are of white oak, specially strengthened where motor is located. The planking is of white oak and cypress, screw fastened and caulked, while the deck planks are of clear white cedar with mahogany finish.

The cockpit is completely ceiled with narrow strips of cypress and copper, nailed. The seats extend fore and aft on each side and are paneled underneath. The lockers are conveniently placed and paneled bulkheads with sliding doors at each end are



Racine 23-foot "Special."

The hull is coat of boiled before the placed in the out



painted with of anti-foul paint below with three white above, ing of enamel. fenders, covering interior are finished in the natural wood with three coats of marine varnish.

given one linseed oil ceiling is position, side is

three coats ing green the water-line coats of yacht the last coat be. The sheer strake, boards, decks and ished in the natural three coats of marine

## Detroit 18-foot "Bluebird."

The makers believe that they have produced a sound and substantial sea boat and a craft to be recommended for open as well as pro-

## Detroit 18-Foot Bluebird.

THE launch known as the 18-foot Bluebird has a beam of 4 ft. 6 ins. and is a standard production of the Detroit Boat Company, Detroit, Mich. This boat is made with the regular auto boat seating arrangement, the forward cockpit having side seats and the after cockpit having tonneau or automobile seat. The steering wheel is placed on the bulkhead and the floor is raised and covered with a high-grade linoleum.

The hull is made of the best grade Louisiana cypress, the ribs are of oak and the decks and coaming are also of oak. The cockpit is ceiled with an elegant interior finish. The boat seats comfortably from six to ten persons, and tests with a 3 1/2 h.p. engine installed at an actual speed of ten miles an hour.

Another feature of interest in connection with this boat is the fact that the engine installed is the 3 1/2 h.p. Detroit which is guaranteed for five years. It is fitted with the company's patent fuel injector, which is designed to enable the engine to operate without change of equipment on gasoline, kerosene, distillate, alcohol, or naphtha.

The price, complete with engine and stall, linoleum on floor, chocks and cleats on forward and after decks and also steering wheel on bulkhead, is \$200, either crated and delivered on board cars at Detroit or afloat in the company's harbor.

## Morris Model A Runabout.

THE stock equipment for Model A runabout, which is manufactured by B. N. Morris, of Veazie, Maine, includes a Palmer two-cylinder engine of 3 1/4 and 3 1/2 ins. bore and stroke, designed to develop a speed of 15 miles per hour. Standard reverse gear and clutch is included and Hyde two-bladed 14-inch propeller with 18-inch pitch and 7/8-inch bronze shaft is fitted.

The eight-gallon gasoline tank is of heavy galvanized iron and is fitted with safety valve. It is connected up to the Schebler carburetor by copper tubing.

The rudder, the shaft tube and the steering wheel spider are of brass. A bronze stern bearing is provided for the shaft.

The hull is constructed of wide flat cedar ribs, spaced closely and planked with 5/16 inch cedar strongly copper fastened, and is covered with closely woven canvas of specially tough texture. The deck beams are all reinforced



Morris Model A runabout.

tected water. Cleanliness is assured, as the machinery is installed in such a way as to isolate it from the cockpit.

to the gunwales by metal angles, the bottom of the boat being reinforced by timbers and braces, designed to eliminate the vibration and to provide a substantial engine bed.

The decks, gunwales, coaming and transom are finished in mahogany, filled and finished with four coats of best spar varnish—the inside is also thoroughly varnished. The outside is finished in yacht white or best marine paint, colors in either gray or green. The price of Model A with regular equipment is \$250.00.

It is well to note that this price includes crating. The hull is thoroughly matted then put into a reasonably strong crate, care being taken to add as little weight as possible. Every effort is made to insure safe delivery.



# From Motor Boating Readers

A Department for the Exchange of Ideas and the Discussion of Questions of General Interest.  
Editorial Opinion on a Number of Questions Submitted by Readers of the Magazine.

MoToR Boating's columns are open to its readers, not only for asking questions, but for placing before them other readers' ideas, results of experience, opinions, etc., that should be interesting or helpful to them; but the editor will not, of course, be responsible for any opinions expressed or statements made in such communications. The name and address of the writer must necessarily be given in every case to make an answer by mail possible (no anonymous contributions will be considered for publication), but names will be omitted in publishing the letters and answers where desired, in which case it is desirable that initials or other distinguishing signature be appended. Through the correspondence department, readers of the magazine may be of direct aid to one another in solving the problems of motor boating.

## Motor for a Hydroplane.

To the Editor of MoToR Boating, Sir:

Being an amateur at motor boats, I wish to ask a few questions which will be of great benefit to me. Having been interested in automobiles for some time past, I subscribed to your magazine, but it has created such a keen enthusiasm in me that I have decided building a speed boat for use this summer, as I intend attending the Perry Centennial at Put-in-Bay, and also Cadillaqua at Detroit this July. I intend building a hydroplane 25 ft. by 4 ft. 6 in. and equipping it with a six-cylinder 60-h.p. motor of 4-in. bore and 6-in. stroke. As this is an automobile motor, I wish to ask if it can be used successfully in this type of boat, and what speed could be expected. As there are various types of hydroplanes, I wish to ask which you consider the fastest and most serviceable type.

P. G. O., Los Angeles, Cal.

[If you will refer to page 14 of the January issue of MoToR Boating, you will see there a table giving the specifications of many of the fastest boats in the races of 1912. Particulars of the engines are also given and the speed in miles per hour that the various boats made in these races.

As to your question, whether an automobile motor can be used successfully in this type of boat, we believe it can be if care is taken to choose a motor suitable for the particular hull. Of course, the hull should be made as light as possible, consistent with the necessary strength, and there are several particulars about an automobile engine which should be looked into before choosing one. Some of these are as follows:

The main bearings should be long enough to stand the continuous hard service to which a marine motor is subjected, and there should be enough of these bearings to withstand the various strains, preferably one on each side of each crank pin. The oiling system should be looked into to see that should the engine bed be on an angle that the splash system will give the necessary lubrication to the moving parts, and not allow all of the oil to settle in the lowest part of the base. If the motor is not to be run at as high speed in the boat that it is designed to run in the automobile, the valve setting will have to be changed somewhat for the slower speeds. The fly-wheel on an automobile engine is generally at the clutch end of the motor, which must be taken into consideration when placing it in a boat, also that the forward end of the motor be of sufficient strength to transmit the power. A fly-wheel of light weight should not be chosen. The thermal siphon or a small cooling pump will have to be replaced by a large pump for the increased head. Automobile engines are generally attached to the bed high up on the side of the motor, while marine engines are fastened down at the base of the motor, and the crank-case placed on the former is at the bottom, which is a decided disadvantage in marine practice when the plate should be placed at the side. Again, in automobile work, no thrust bearing is necessary, but one must be used for marine work. Probably a water-cooled manifold will be necessary in place of

the air-cooled one. The auto engine runs besting hot paraffine or tar over dry cells, with when fairly hot, and, in marine practice, the motors are kept considerably cooler on account of the outside water, which is pumped into the jackets, being at a low temperature.

While the above points enumerated may appear of considerable moment, yet we believe if you use a reasonable amount of care in choosing and installing the auto engine, that you will have good results in a light hydroplane.]

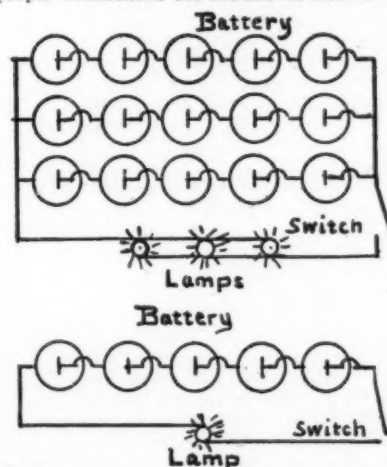
## Lighting with Dry Batteries.

To the Editor of MoToR Boating, Sir:

The article entitled "Lighting with a Dry Battery," which appeared in the April, 1913, number of MoToR Boating, suggested the following additional points which may be of interest to your readers:

As to lights, those marked 6 volts and 0.25 amperes are best suited to be used with dry cells. They will give, approximately, 2½ candlepower. The lights which are marked 6 volts and 0.95 amperes draw too much current and should not be used with dry cells.

With a 6-volt lamp, it is better to use five cells connected in series, and good service will be obtained if extra series of cells be connected in parallel for every extra light that is added. The following diagrams show the proper connections for one and for three lamps.



Wiring arrangements suggested by the National Carbon Company for using dry cells for lighting.

Using tungsten lamps and connecting them, as indicated above, about 50 hours of service can be obtained for the set if the lamps are not burned over an hour or two at a time. For longer periods of burning, the hours of service will be less.

It is advisable to enclose cells in an air-tight box to prevent evaporation and to render batteries waterproof. Care must be taken in pouring hot paraffine on dry cells because they, although one of the sturdiest and least-damaged sources of electrical energy, are susceptible, to some extent, to extreme changes of temperature. Many attempts have been made at pour-

ing the result that the high temperature of the molten material disturbed the equilibrium of the cell, resulting in poor-service life.

NATIONAL CARBON CO., Cleveland, Ohio.

## Tank Too Low.

To the Editor of MoToR Boating, Sir:

I have a 5-h.p. engine on a 20-ft. boat. While she goes, she slows down herself, and after a while catches up again. She runs fast, then slow, and sometimes misses explosion. She changes her speed without me touching her. Will you kindly give me some information about it. It is a make-and-break engine equipped with a carburetor. The batteries are brand new.

P. F., New York City.

[From the brief description you have given us of it, we should say that the trouble lies in the gasoline supply. Either the supply line is stopped up or else the tank is not raised high enough above the carburetor level. An irregular or insufficient supply of fuel would result in your motor acting just the way it does, and so we would advise you to make sure of the above-mentioned points and we think you should have no further difficulty.]

To the Editor of MoToR Boating, Sir:

I thank you for the above explanation you gave me about my trouble with the engine. I have put the gasoline tank about 8 inches higher, and I now get good results. She goes as fine as ever at any speed I want.

P. F., New York City.

## Suitable Motor for a Wheel.

To the Editor of MoToR Boating, Sir:

I have a 35-ft. boat, 8-ft. beam; draft, 24 in.; fan tail or cut under stern. I have a three-blade 22-in. propeller and want to make 12 miles per hour. What horsepower engine should I use, as I want to use a two-cylinder two-cycle motor, using gasoline.

T. A. H., Hollister, Mo.

[We do not believe that this can be obtained with an engine at all under 30 h.p. The type of stern on your boat is not at all suited for speeds much above 8 or 9 miles per hour. We would also not advise trying to buy an engine to fit your propeller, as you are likely to spend a good deal more money in the attempt, and the results will be far less satisfactory than if you threw away your present wheel and purchased a new one to fit both boat and engine. You have not even given us the pitch of your propeller, so we could not advise you at what r.p.m. you should run your engine at, to get the above speed. However, should the propeller have a pitch ratio of about 1.25, then for this speed you will need an engine turning about 650 r.p.m. Your choice of a two-cylinder two-cycle motor for this work is also bad, as one of the necessary power will have to contain, approximately, 465 cubic inches of piston displacement, and you can figure out for yourself the size of engine that this would necessitate. Here, also, by the choice of this particular engine, you are losing considerable efficiency both in first cost, operating charges and satisfaction.]

## Installation for a Speed Boat.

To the Editor of MoToR BoatinG, Sir:

I would like to have some information on the following outfit. I have a 32' x 4' 6" speed boat of very good lines with a six-cylinder, four-cycle 4½" x 5" motor, with which I expect to swing an 18" x 36" propeller at 1,000 r.p.m. I would like to know if it is good practice to put a flexible coupling or joint aft of the reverse gear, and, if so, whether it is necessary to have a thrust bearing aft of the joint. About what distance should the blade of the wheel be from the bottom of the boat and how far should rudder be from the wheel. Also, about what speed could I expect from this outfit. The design is capable of over 30 miles an hour.

C. N. W., Philadelphia, Pa.

[We would not advise this if it is possible to place the engine in the boat at an angle not greater than 2 inches to the foot, in which case the motor should be connected direct. If you do use a flexible joint, we would strongly advise a thrust bearing.]

The distance from the top of the propeller blade to the bottom of the boat may be anything from 2 inches upward. We have seen installations similar to yours even closer than this amount, which gave excellent results, but we would not advise a less distance than 2 inches if you can avoid it.

The distance from the wheel to the rudder depends upon so many other things that it is hard to state, off hand, what this should be. The shape and position of the rudder is a very influencing factor in this respect, as with a narrow, deep rudder, it is feasible to place the wheel much closer to the rudder than if the latter is a shallow and long affair in the fore and aft direction. However, this distance is more or less immaterial and should not be given too serious consideration.

In regard to the speed of your outfit, with a 4½" x 5" six-cylinder four-cycle motor running at 1,000 r.p.m., if your motor is capable of 45 h.p., as one of these dimensions if of good design and in good condition should be, we believe you can expect in the neighborhood of 20 or 21 miles per hour.]

## Wiring Plans.

To the Editor of MoToR BoatinG, Sir:

I was very glad to see your answer to the letter of N. F. Abbott, concerning a wiring plan for several sets of batteries, on page 35 of the March issue, as I have been considering a similar thing myself. But if it is not too much trouble, could you add a little to that wiring plan for my benefit? Where and how should a magnetic automatic cut out for the dynamo be placed? Would it be feasible to use simultaneously both of the 120 hour batteries, for instance in order to operate more lamps at once? If this were done, would one of these batteries, if a little more fully charged than the other, discharge into the weaker one to the detriment of either battery? Has the 12 volt system, now being quite commonly used for boat lighting, any great advantage over the 6 volt system and if so, what is it?

Washington, D. C.

H. B.

[The automatic cut-out should be placed in series with the dynamo as near to the latter as possible, preferably close to the dynamo switch.]

It would be feasible to use two of the storage batteries simultaneously, provided both are in good condition. Of course, if one happens to have a greater voltage than the other, the higher one will tend to discharge itself into the one of lower potential until the two become of equal electro motive force. We can see no reason why one should discharge itself to the detriment of either battery.

We do not believe the 12-volt system has enough points in its favor to warrant its use in small installations on boats under 50 or 60 ft. overall length. Most of the standard outfits on the market today are built for a

6-volt system and as soon as you get away from this standard, special machines and accessories will be required which will greatly increase the cost of installation of the electrical plant. However, on the other hand the 12-volt system has the advantage that a less amount of current will be drawn from the batteries for a given candle power.]

## Direct Drive vs. Gears.

To the Editor of MoToR BoatinG, Sir:

I have a runabout model, hull 22½' x 4' 6", a six-cylinder 4-cycle 3¾" x 4" motor, weighing about 750 lbs., developing maximum h.p. at 900 r.p.m. I would like your opinion on following: Direct drive with engine well forward or propeller shaft geared about 3 to 2, and engine set back towards stern with clutch and propeller shaft forward—what size wheel and approximate speed in each case?

J. J. M., Detroit, Mich.

[We do not believe that you could obtain as satisfactory results by gearing up the motor. Any advantages that there might be by placing the motor aft, as regards the boat's planing qualities, would be more than offset by the disadvantages of the gearing in a boat and power plant of your dimensions. If the position of your shaft line will allow you to throw a three-bladed wheel 18 inches in diameter by 30 inches pitch, we believe that will work out more satisfactorily than the gear arrangement.]

We should expect that you should be able to obtain a speed of about 20 miles per hour with your outfit.]

## Suggestion for a Steam Box.

To the Editor of MoToR BoatinG, Sir:

Thinking this idea may be of benefit to amateur boat builders like myself who have tried and found it as satisfactory and much less care than a steam box, I take the liberty of sending you the following: A good method of steaming boat ribs for bending is by packing the ribs with sawdust in a long, narrow box. Pour two or three kettles of boiling hot water on sawdust, thoroughly saturating same. Then cover well with burlap or any material that will hold steam and prevent cold air from striking sawdust. Allow to stand two hours, when ribs are ready to use without any danger of breaking. If care is taken to recover the box after removing each rib, they will remain steaming for from 8 to 10 hours. With this method I have bent ribs of 1¼" diameter.

H. G., Plattsburgh, N. Y.

## Motor for a Cruiser.

To the Editor of MoToR BoatinG, Sir:

It would be greatly appreciated by me if you will advise what size engine is best suited to the boat which I have at present in the course of construction. The boat is 35 ft. overall, with 8' 6" beam and will weigh approximately three and one-half tons. It is of the raised deck type with full headroom throughout.

C. E. J., New York City.

[What size engine is best suited to your boat depends entirely upon what use you wish to put it to. For example, should you wish to enter your boat in races, you will require a decidedly different engine than if you were going to use it entirely for towing purposes, and other examples may be cited anywhere between these two limits, which would be the deciding factor in choosing your engine. However, basing our decision upon average practice for a cruiser of your dimensions, we would advise, for a 4-cycle motor, one of about 20 h.p., turning not over 650 r.p.m. and preferably somewhat less and weighing between 800 and 1,000 lbs., or for a 2-cycle motor of the same power, one weighing in the neighborhood of 600 lbs. The former type will require an engine having a cylinder displacement volume of about 250 cubic inches and the latter type about 200 cubic inches.]

## Economical Running at Low Speed.

To the Editor of MoToR BoatinG, Sir:

In looking over MoToR BoatinG of January, 1913, I note the inquiry of E. O. D. about a 20 h.p. automobile engine and should like to ask you a question. If a four cycle four cylinder 4½" x 4½" bore and stroke that is rated at about 34 h.p. at 1200 r.p.m. was put in a boat and speed of engine cut down to about 500 r.p.m., would not you be able to get 10 h.p. out of engine and have it do it in economical manner as a marine engine and also do it without straining the engine? That is, allowing that the engine was a good one and in good condition would it not make a very durable engine provided all other things were properly installed? Also what is the import duty on gas engines for marine use?

H. H. L. Thompsonville, Conn.

[You have not told us the type of boat so we are not able to advise you as to its feasibility. In some types of boats the automobile engine is all right and in others it is all wrong, so you will see everything depends upon the boat itself.]

We should judge, however, from the fact that you wish to cut the revolutions down to about 500 r.p.m., that you intend installing such an engine in the cruiser or other form of heavy boat. While cutting the r.p.m. down to this figure will give you probably 10 h.p. without any trouble and operate in a satisfactory manner, yet you are not operating in an economical manner from the fuel standpoint. Instead of using about 1 pint of fuel per h.p. hour which should be the amount at 1200 r.p.m., you cannot hope to obtain better economy than 1.5 or 1.6 pints per h.p. hour at 500 r.p.m. Then again the weight economy per h.p. is poor, to say nothing of the first cost, but this latter point may be neglected as we take it you have the engine already on one, but if you intend purchasing a new engine, it becomes of considerable moment as compared with the cost of a 10 h.p. marine engine.]

## Treatment for Salt Water.

To the Editor of MoToR BoatinG, Sir:

What application or treatment can I use on the bottom of my boat—a dory skiff, to keep out the worms in salt water? The receding tides often leave it on the beach and I have to slide it over the sand to the water edge. This scrapes off the bronze marine paint and leaves the naked wood exposed to the attack of worms. Is there no liquid or oil or chemical preparation that I can soak in the wood that will keep the worms out?

H. S., Monroe, N. C.

[We are afraid that no application or treatment that you could apply to the wood would give satisfactory results, although it is claimed that a preparation of tar and creosote will help considerably as a preservative.]

This is made by pouring melted pitch or tar into creosote and stirring it until it has reached the consistency of paint and then applying with an ordinary paint brush.]

The only effective method of preserving the wood in your case, where any material added to the surface, such as copper paint, etc., will be immediately scraped off, is to copper-sheath the bottom of your boat where it comes in contact with the beach, and apply frequent coats of copper paint at other portions, or else copper-sheath the entire bottom below the waterline, which is a rather expensive procedure and requires good workmanship to do the job right. However, we believe that this is worth while, but the other method should prove equally effective if good care is taken to immediately cover up any portions of the paint that are scratched off as soon as this occurs. The subject of copper-sheathing the bottom of a boat for southern waters was thoroughly taken up in the January, 1912, issue of MoToR BoatinG.]



# YARD AND SHOP

## A Useful Life Boat.

There has recently been published a most interesting book entitled "The Truth About the Titanic," by Colonel Archibald Gracie, one of the survivors of that severe-to-be-forgotten tragedy. On page 74, we find a paragraph of unusual interest to those who find their living or their pleasure on the water.

"I struck out through the wreckage and after a considerable swim reached the portside midships of this Engelhardt boat, which, with her companions wherever utilised, did good service in saving the lives of many others. All honor to the Dane, Captain Engelhardt, of Copenhagen, who built them."

In this same connection the Engelhardt Company tells us that among the 1,400 Engelhardt life boats sold during the past year, there were 43, which were carried by the new Hamburg-American liner "Imperator," which recently visited us for the first time.

## Canadian Life Boat.

The Marine Construction Company of Toronto, has just placed in service at the life saving station at the eastern entrance to Toronto harbor, an interesting boat, powered with a 45-75 horsepower Sterling motor, with Bosch dual ignition. The construction of this craft is naturally very substantial. Her ribs are closely spaced and her planking is 3/4 inch cypress, the finish throughout being in mahogany. Her overall length is 32 feet and her beam 6 feet. The guaranteed speed was 23 miles per hour, but in tests by government officials she made 25 1/4 miles over an accurately measured mile.

## Gilbough Leaves Mottsinger.

Ben G. Gilbough and H. B. Earl have sold their stock in the Mottsinger Device and Manufacturing Company to Homer N. Mottsinger, the latter now being sole owner of the company. Mr. Gilbough has tendered his resignation as secretary of the company and will spend the summer traveling for his health and will then take charge of the eastern territory for the Mottsinger Company. He will be succeeded by N. H. Mottsinger, Jr., brother of the president of the company, now Chicago manager for the Wheeler-Schebler Carburetor Company.

## Sea Bright Dory Agency.

The Water Craft Company, of 221 Fulton St., New York City, informs us that it has consummated arrangements with Willard H. Jerolamon, whereby it will handle, under exclusive rights, the well known Sea Bright dory within the limits of Greater New York. Mr. Jerolamon is the builder of this craft, which was first designed by his father a good many years ago. The industry has since that time been kept in the family.

## Arrived just in Time.

Henry Louttit, an engine and accessory dealer at Monongahela, Pa., recently reported to the Emmons Specialty Company, of Detroit, an interesting occurrence in connection with the receipt of his first shipment



The new shop of the Warren Sales Company in Chicago, Ill.

of Esco fire guns. It seems that just after the little fire fighters came into his store, a motor car out in front took fire, due to a leaky carburetor. Mr. Louttit recognized the opportunity and rushed to the scene with an Esco gun, which subdued the blaze in less time than it takes to tell it. These Esco fire guns are designed not only for motor car and boat use, but are very practicable for the home, office, warehouse, or, in short, any place where fire is likely to occur. The

"Buffalo" heavy duty. This same engine formerly powered the work boat Occidentia, which sunk a couple of years ago. When the Occidentia was raised her engine was taken out and put in the Alverine and in spite of the fact that it had been submerged while warm, and allowed to remain under water for a long time it cost less than \$50 to put it in first-class running order again. The Alverine is 75 feet over all, with 12 feet beam. Her speed is 12 miles per hour.

## Splitdorf Service Extension.

The Splitdorf Electrical Company, of New York, is rapidly perfecting its service system. One of the latest developments in bringing this important branch of the company's activity up to the highest state of efficiency is found in the opening of a service station at No. 8 Harris Street, corner of Peachtree Street, Atlanta, Ga. This is a direct factory branch and the equipment is in every way complete. A branch has also been opened at No. 290 Halsey Street, Newark, N. J., and another will immediately be installed in Toronto, Canada. With the branches already opened and those in immediate contemplation, Splitdorf users will be able to obtain satisfactory service in almost any part of the country.

## "Babbette."

The Gas Engine & Power Company and Charles L. Seabury & Co., Cons., of Morris Heights, have recently completed and shipped to Saranac Lake, N. Y., the high speed gasoline launch "Babbette" for Henry Goldman. The dimensions of the boat are: length, 54 feet; beam, 7 feet, and draft, 3 feet. The guaranteed speed is 23 miles per hour, but on her trial the boat exceeded this limit easily.

The motor is arranged under hinged covers forward of the steersman's cockpit, at which point is brought the entire control of the boat, there are seats arranged in the steersman's cockpit at the after end, which can be used by the owner when handling the boat, or by guests who wish to ride forward, aft of this cockpit separated by bulkhead with door, the cabin is located, which is finished in panelled mahogany highly finished, this cabin is fitted with large heavy plate glass windows arranged to drop in pockets. At the after end of this cabin is arranged bulkhead with windows and hinged door with glass panels; the cabin is furnished with wicker chairs, also seats at the after end on each side of the entrance, roller Pullman shades on the windows.

Aft of the cabin is located large cockpit, for wicker chairs, with thwart seat at the after end with upholstered backboard.

Hull, decks and interior joiner work of mahogany.



Two views of the attractive shop of the Water Craft Company at 221 Fulton Street, New York City. This concern has just taken the selling agency for Sea Bright dories.

highly finished. Copper fuel tank, set in copper pan arranged under the after deck with scuppers arranged to drain outboard, the feed or supply pipe to the motor is run on the outside of the hull alongside the keel.

The motive power consists of one 6-cylinder, 8-in. bore by 8-in. stroke, "Speedway" gasoline engine, with Bosch dual ignition, the master or starting coils are located on the bulkhead aft of the engine. The steering wheel is located on the bulkhead aft of the engine the reverse lever, gauges for whistle, and force feed pressure gauge with tachometer, on the bulkhead thus bringing the entire control of the boat under one man.

#### De Long Takes Lombard.

The De Long Engine Company, of Webster, N. Y., advises us that it has taken over the business of the Lombard Mfg. Co., of Rochester, manufacturers of the Lombard starter. The business will be moved to Webster, where the De Long people have made arrangements to turn out the starters in large quantities.

#### Sterling on "Otsego."

In our June issue we showed a cut of a handsome little runabout, "Otsego," built by the Matthews people. This craft is powered with a four-cylinder model B30—50 horsepower Sterling engine, with which she is able to reel off a consistent 22 miles per hour without extra effort.

#### Smalley Chicago Agents.

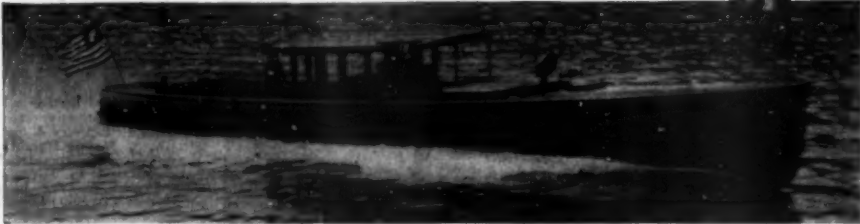
The Smalley-General Company, of Bay City, Mich., have made arrangements with the Chicago Boat & Engine Company, 1508 Michigan Boulevard, Chicago, Ill., to act as their Chicago distributors for "Smalley" engines. They will carry a complete line of engines in stock for show purposes, also repair parts so as to give "Smalley" owners in that section the best of service and attention.

#### Milwaukee Representative in Chicago.

The Milwaukee Yacht & Boat Company has announced the appointment of Curtis Quincy Smith, as their representative for Chicago and vicinity, with offices at 924 Chicago Opera House Building.

Mr. Smith is a well known yachtsman and is a member of a number of yacht clubs in Chicago. His close touch with the yachting fraternity will be to his advantage as a representative of a concern building all types of high grade boats.

The yards and plant of the Milwaukee Yacht & Boat Company are very accessible to Chicago and persons for whom fine boats are built appreciate the advantage of being able to make frequent inspection trips during the course of their construction. The company's new plant is said to be among the most up to date and best equipped on the Great Lakes, and its owners take a great deal of pride and satisfaction in having yachtsmen inspect it and the work which they are doing.



"Babette," a recent product of the Gas Engine-Seabury yards and now in service at Saranac Lake, N. Y.

#### Scripps' Chicago Agents.

The O. L. Cosgrove & Co., of 215 Englewood Ave., Chicago, Ill., have recently completed arrangements with the Scripps Motor Company to act as their agents for Chicago territory.

Mr. Cosgrove, who has had considerable experience in marine circles, principally on the Great Lakes, will personally look after the Scripps interests in Chicago.

#### Anderson Plant.

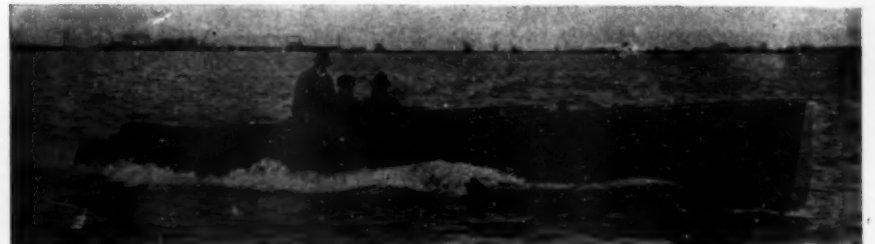
The Anderson Engine Company, of Chicago, has just moved into its handsome new plant at 61st Place and Archer Avenue. The building, a picture of which appears in this section, is of brick construction, with concrete foundation and floors, and a roof of composition. It is 73 feet wide by 160 feet long and was put up and equipped especially for the manufacture of Anderson engines. A ten-ton crane travels the full length of the building and a switch track the full length of the outside. This track is connected with the Indiana Harbor Belt Railway, which makes direct connection with all the railroads entering Chicago. The power



The latest Curtiss flying boat on its home waters, at Keuka Lake. In the circular insert note the remarkable passenger accommodations afforded by this denizen of the air and the water.

plant consists of a large Anderson gasoline engine and the building is equipped with a large overhead steam heating plant and independent electric lighting system. The equipment for testing engines is very complete.

The Anderson Company announces the appointment of A. E. Raymond & Co., of Fort Myers, Fla., as their agents for that district. They will carry a small



Life boat in service at Toronto, Canada. This craft was built by the Marine Construction Company, and is powered with a 45-75 horsepower Sterling motor.

stock of Anderson engines in connection with their marine supply business.

#### Winton Exhibit.

The Winton Gas Engine & Mfg. Co., of Cleveland, Ohio, are placing a permanent exhibit on the Concourse in the Hudson Terminal Building, New York

G. C. vaporizer. This device is intended to enable any gasoline engine to be run on heavier fuels without any alteration other than the fitting of the vaporizer itself. The apparatus may be said to resemble a concentric tube silencer in its principles of construction, as it occupies a position between annular tubes which compose the muffler, and this is surrounded by hot gases which act on the kerosene admitted to the vaporizer and slowly distill it. Fuel, air and gas pipes are introduced to one end of the vaporizer, the gas pipe being connected to the intake pipe of the engine. The air sucked into the vaporizer mixes with the vapor and the mixture, being superheated to some extent, passes through the intake pipe to the engine, meeting on its way an air valve through which about fourteen times its volume of air is admitted. The gas thus formed is drawn into the engine before it can condense. The arrangement, it will be seen, is not, in any sense, a kerosene carbureter, as there is no attempt to atomize the fuel by passing air over it as it comes out of the jet. It might be more aptly described as a fuel distiller. It is said that tests show that with the G. C. fitted, an ordinary motor boat engine compares favorably on running costs with the well-known Diesel crude oil engine. The vaporizer is sold by the G. C. Vaporizer Company of America, New York.

#### Bruns, Kimball Seeks Larger Quarters.

Mr. Kimball, of Bruns, Kimball & Co., of New York City, tells us that his firm is seeking larger quarters for its business than its present home at 133 Liberty Street. Mr. Kimball further mentions that his company disposed of more than a hundred second-hand engines during the month of May. This concern always carries a large stock of used engines; in fact, one may be sure of finding at least 150 on their floor at any time.

#### Erd Catalogue.

The Erd Motor Company, of Saginaw, Mich., is putting out a very interesting and attractive folder, covering its line of marine engines, inserted half-tone cuts serve to supplement the ample text descriptions.

#### "Perfex" New York Office.

The Electric Goods Manufacturing Co., of Canton, Mass., manufacturers of the "Perfex" line of ignition apparatus, have completed arrangements with R. V. Sutcliffe to represent them in New York City and adjacent territory. The office will be located in the Electrical Exchange Building at 136 Liberty Street.

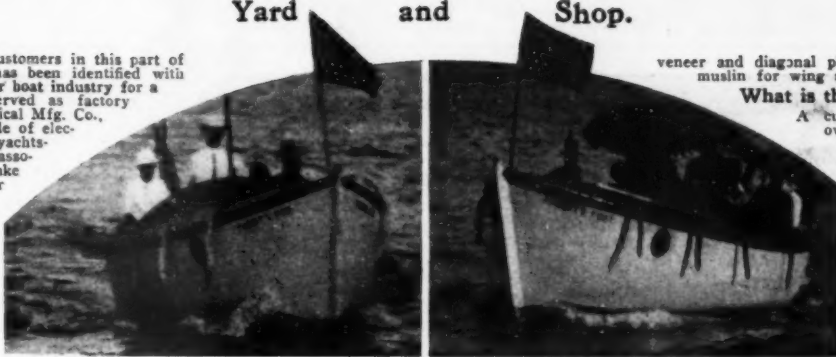
This move is in line with the policy of the company to provide adequate facilities for de-



The "Alverene," a 75-foot launch in service at Everett, Wash. She is powered with a 60-horsepower, heavy-duty Buffalo motor.



livery and repairs for their customers in this part of the country. Mr. Sutcliffe has been identified with the electrical end of the motor boat industry for a number of years, having served as factory manager for the Dayton Electrical Mfg. Co., whom he represents in the sale of electrical lighting outfits for yachtsmen. Mr. Sutcliffe and his associate, Mr. Madsen, will take pleasure in affording motor boatmen any possible information regarding the proper lighting and ignition systems for use on boats of various sizes. They have a complete staff of salesmen, able to install any electrical equipment required by the motor boat enthusiast. Special attention will be given to handling the "Perfex" waterproof, high tension ignition with low tension wiring and "Perfex" current alternating timing.



"Rabbit's Foot," a little 20-foot launch, powered with a 5-6-h.p., Detroit motor, which recently made the trip from Detroit to the Soo.

vener and diagonal planking and for waterproofing muslin for wing surfaces.

#### What is the Flying Boat?

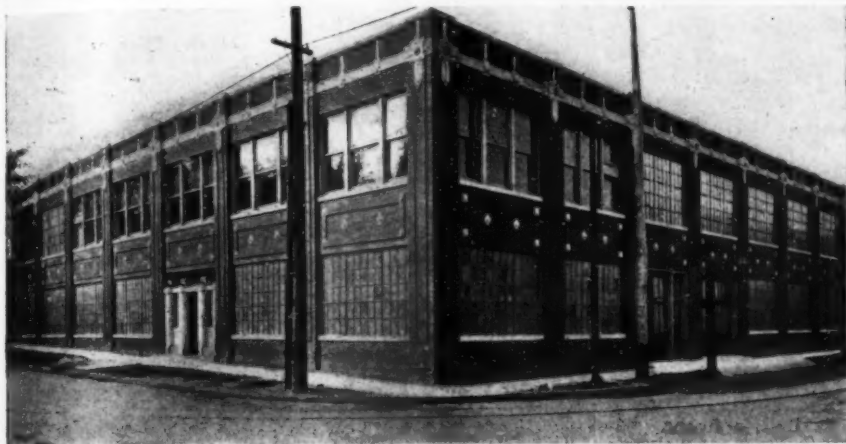
A curious controversy has arisen over the classification of the hydro-aeroplane. The authorities seem to be in considerable doubt as to whether these amphibious craft are fish, flesh or good red herring. The Aero Club of America insists that the flying boat is an aeroplane and that competitive events for them must have the club sanction. On the other hand, harbor officials insist that flying boats must comply with the laws governing motor boats and must carry signal horns, lights, life preservers, etc. The A. P. B. A. officials frankly say that they do not know where to class this roamer of the seas and skies. Some of the readers of *MoToR Boating* may be interested in trying to devise an answer to the problem.

#### New Method of Storing Gas.

An English firm has devised an ingenious method of storing gasoline, which may be of interest to those in the trade in this country. The novelty of the system consists in the fact that the storage tank is always full of liquid, and that no air is admitted at any time. The liquid in the tank may be all gasoline or gasoline and water, or all water. The water and gasoline do not mix, and owing to the difference in their specific gravities the gasoline always floats on the surface of the water. By simple, ingenious mechanism water is pumped into the tank to force out the gasoline when required, while the water is drained away when space in the tank is needed for the storage of gasoline. The advantages which are claimed for the system are that there is no loss from evaporation, that no gas is forced out when the storage tank is refilled, and that the gasoline will not deteriorate, no matter how long it is kept in the tank. It need scarcely be added that the apparatus is so designed that no water whatever can be drained off along with the gasoline.

#### Doman Cup Race.

One of the best contests of the present season on the Pacific Coast developed in the recent Doman Cup race at Tacoma. B. F. Jacob's "Corsair" turned out to be the winner, and her chances in the coming race for the Pacific International Trophy are well thought



The new Waterman plant at Mount Elliott and East Fort Street, Detroit.

#### "Vamoose" Victor.

One of the most spectacular and hard fought speed boat contests that ever took place on the Pacific Coast was recently staged on the Willamette River, near Portland, Ore. The contestants were "Oregon Wolf," holder of the championship of the Pacific Coast, and "Vamoose," owned by Captain Milton Smith, of Ranier, Ore. These two boats have met before, but in each case accident put one of the boats out of the running, so that no definite line had been drawn between them. The betting odds favored the "Oregon Wolf," but "Vamoose" obtained an early lead and was never headed, winning by about 100 feet. The engine which drove "Vamoose" to victory is a six-cylinder, 90-horsepower Van Blerck.

#### New Waterman Plant.

The Waterman Marine Motor Company, of Detroit, is now installed in its handsome new quarters at Mount Elliott and East Fort Street. The building is a two story structure of brick and reinforced concrete. It contains 20,000 of floor space, all well lighted, heated and ventilated. The first floor is devoted to receiving rooms, testing, packing, shipping, etc. On the second floor are the business offices, the machine shops and assembling departments. In this plant are produced all the well-known Waterman line of motors, ranging from the little 2-horsepower Porto, portable engine for installation in row boats, through canoe, launch, runabout, racing and heavy duty engines. This company makes a feature of its guarantee, which is not for any specified time, but for the life of the motor.

"There is only one drawback to our enjoyment of our new quarters," said Cameron S. Waterman, president of the company. "We thought we had room enough here to accommodate us for 20 years." "But," he sighed, "orders are coming in so fast that we can scarcely handle them even with our increased facilities, and already we are preparing to immediately add another story, giving us 10,000 more square feet of floor space."

#### New Use for Jeffery's Glue.

L. W. Ferdinand & Co., of Boston, Mass., call our attention to an interesting development in the field of usefulness of their Jeffery's marine glue. They point out that their waterproof liquid glue, C quality, or their No. 1, black, white or yellow, soft quality marine glue, makes an admirable waterproofing for the canvas coverings of flying boats. They tell us that it not only waterproofs and preserves the canvas, but attaches it to the wood and with a coat of paint once a year, will last as long as the boat. They also recommend these compounds for use in combination with calico and canvas, between



Scene in the new shops of the Anderson Engine Company at 61st Place and Archer Avenue, Chicago.



Service station of the Gray Motor Company at 114 Light Street, Baltimore, Md. R. W. Thompson is in charge of the station.

of by the "bugs." "Corsair" is powered with a 26-30 horse-power "Buffalo" heavy duty engine.

#### Durkee Addition.

Only a couple of weeks ago it was current report that the Park Commission had served notice that the Durkee factory had been included in the new boulevard about to be opened, running along the Clove Road at Gramercy, Staten Island. It turns out that it is the new homes of Charles D. and his brother, William, that lie in the proposed route and instead of the factory being razed; builders are busy at work making a large addition thereto.

The one thing that Durkee's needed to make their factory complete was a galvanizing plant and this will be the most conspicuous feature in the new addition. The product of the factory will provide enough work to keep this department busy besides saving time—the time-saving factor being the principal reason for the installing of this galvanizing plant.

It is only sixteen



months ago that a party of some sixteen hundred people assembled to open the present Durkee factory, which seemed at the time large enough to fill every possible requirement for years to come and yet here the builders are again, adding an extensive addition to the plant. The answer is obvious.

In this same connection it is interesting to note that Chas. D. Durkee & Co., has just purchased the stock and business of the C. A. Forker & Co., and has installed the entire plant in its main store at 2 and 3 South Street, New York City. The Durkee store will carry a most extensive line of jacks, ensigns, signal flags, etc. Private signals, burgees, house flags and foreign flags will be made very quickly on order. C.



"Lady Mary III," a new "family hydroplane," just completed by the Warren Sales Company for J. L. Shaw, of Chicago. This boat has an overall length of 30 feet, and is powered with a 75-h.p., six-cylinder Sterling engine.

#### Maxim Silencer.

Messrs. Wilcox, Crittenden & Co., Inc., of Middletown, Conn., sole distributors of Maxim Silencers, are putting out a little folder describing the device. As is widely known, the Maxim silencer operates on a scientific principle which does away with both primary and secondary noises and dissipates the energy of the exhaust gases by whirling or spinning and with out interposing resistance to their motion.

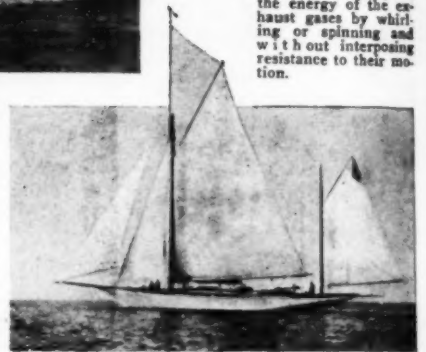


"Donnie," an English boat which runs entirely on kerosene by a G. C. Vaporizer.

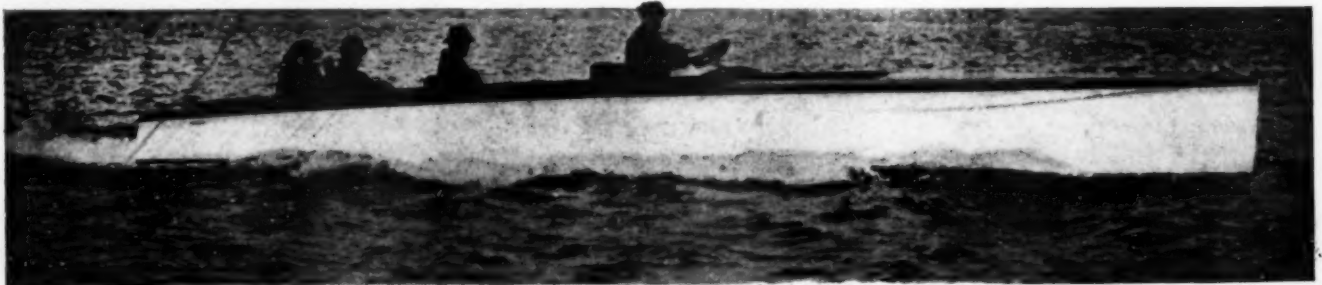
A. Forker will be in charge of this Durkee department.

#### New Buffalo Agent.

A. C. Houser, sales manager of the Buffalo Gasoline Motor Company, has announced the appointment of A. J. Alexander, of Orange, Texas, as sales representative for Buffalo engines in Orange County. Mr. Alexander will also have the privilege of selling Buffalo engines in the sections of Louisiana which are not already represented. He will be supplied with catalogues and full information and repair parts can be obtained through him. Mr. Alexander reports a great and growing interest in motor boating in his section.



"Nurmah," 85-foot auxiliary yawl with 40-h.p., heavy-duty Sterling motor.



"North Star," an attractive runabout powered with a Scripps motor.

1913	July							1913
SUN	MON	TUE	WED	THU	FRI	SAT		
		1	2	3	4	5		
6	7	8	9	10	11	12		
13	14	15	16	17	18	19		
20	21	22	23	24	25	26		
27	28	29	30	31	August 1st	August 2nd		

# CALENDAR

1913	AUGUST							1913
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	
29 August 1913					1	2		
3	4	5	6	7	8	9		
10	11	12	13	14	15	16		
17	18	19	20	21	22	23		
24	25	26	27	28	29	30		

#### JULY, 1913.

- 1st—St. John Power Boat Club.
- 3rd—Astoria, Oregon, Motor Boat Club.
- 4th—Happen Sea Yacht Club, Grand View on Hudson.
- 4th—Columbia Yacht Club, Chicago, Ill.
- 4th—Pensacola Yacht Club.
- 4th—5th—Red Bank Motor Boat Club, Red Bank, N. J.
- 4th—5th—Maryland Motor Boat Club, Baltimore, Md.
- 4th—5th—Chicago Motor Boat Club.
- 5th—Wildwood Yacht Club, Wildwood, N. J.
- 5th—Columbia Yacht Club, Chicago, Ill.
- 5th—New Rochelle Yacht Club.
- 5th—6th—Yachtsmen's Club Ocean Race.
- 7th—Portland Motor Boat Club, Portland, Ore.
- 7th—8th—Elimination Trials for the Harmsworth Trophy Challenge.
- 12th—New York, Cornsfield Lightship and Return, Colonial Yacht Club, New York City.
- 12th—Chelsea Yacht Club, Atlantic City, N. J.
- 12th—Delaware River Racing Association.
- 12th—Hudson River Motor Boat Club.
- 12th—Cleveland Yacht Club.
- 12th—Seaside Yacht Club.
- 12th—Delaware River Yacht Racing Association, Bristol, Pa.
- 12th—New York Motor Boat Club.
- 12th—Columbia Yacht Club, Chicago, Ill.
- 25th—Maryland Motor Boat Long Distance Race.
- 25th—Delaware River Yacht Racing Association, Camden Motor Boat Club.
- 25th—Ocean City Yacht Club.
- 25th—Savannah Motor Boat Club.
- 25th—Flat Rock Motor Boat Club.
- 25th—Chicago Motor Boat Club.
- 27th—Aug. 24—Perry Centennial Carnival & National

Ass'n of Engine & Boat Builders Races at Toledo, Ohio, and Put-in-Bay, Lake Erie.

#### AUGUST, 1913.

- 1st—2d—Gold Challenge Cup Races on the St. Lawrence.
- 1st—Delaware River Y. R. A. Keystone Y. C. race, 100 miles from Tacoma, Pa., to Cape May, N. J.
- 2nd—Stones Harbor (N. J.), Y. C.
- 2nd—Olympia (Wash.), to Victoria, B. C.
- 2nd—3rd—Chicago Motor Boat Club. Cruise to Michigan City.
- 2nd—Columbia Y. C. (Chicago). Cruise to Waukegan.
- 2nd—3rd—Western Power Boat Ass'n. Annual Regatta.
- 3rd—Ocean City Y. C. Open Regatta.
- 4th—10th—Victoria (B. C.) Yacht Club.
- 5th—6th—7th—Mississippi Valley Power Boat Ass'n. Annual Regatta.
- 8th—9th—Race Meet at Peoria, Ill.
- 9th—Holly Beach Y. C. Joint race between Caye May, Holly Beach and Wildwood Clubs.
- 9th—New Rochelle Y. C. annual cruise.
- 9th—Delaware River Yacht Racing Ass'n. Races at Torreadale.
- 8th—9th—10th—Chicago Motor Boat Club. Cruiser Race to Peoria.
- 9th—Erie (Pa.), Y. C. Bang-and-Go-Race.
- 10th—Hudson River Motor Boat Club. Open race to Rockland Light and return.
- 11th—First Race for British International Trophy at Cowes.
- 11th—Hamilton, Ont. Centennial Week.
- 12th—Babylon (L. I.), Y. C.
- 14th—Sayville (L. I.), Y. C.
- 15th—Bulport (L. I.), Y. C.
- 15th—Chicago Carnival. Eight Days.

- 16th—Delaware River Y. R. A. Speedboat Races.
  - 16th—Pachogue (L. I.), Y. C.
  - 16th—Cape May (N. J.), Y. C.
  - 16th—Flat Rock Motor Boat Club. Annual speedboat race for Commodore's Cup—open to speedboats and hydroplanes of Delaware River Y. R. A. Finals. Interclub Championship.
  - 16th—17th—Portland (Ore.), Motor Boat Club. To St. Helens, Ore.
  - 16th—17th—Chicago Motor Boat Club. Open day for Postponed Races.
  - 17th—Cleveland, O. P. B. C. Race to Vermilion.
  - 17th—Pacific Motor Boat Club. Speedboat Race.
  - 19th—Columbia Y. C. (Chicago). Sealed Orders Race.
  - 23rd—Sea Isle City (N. J.).
  - 23rd—Delaware River Y. R. A. 15-mile race for speedboats. Bridesburg Y. C.
  - 23rd—24th—Chicago Motor Boat Club. Jackson Park Races.
  - 24th—Hudson River Motor Boat Club. Club Races.
  - 24th—Pacific Motor Boat Club. Cruiser Race.
  - 30th—South Jersey Y. R. A. Cape May Yacht and Country Club.
  - 30th—New Rochelle Y. C.
  - 30th—Buffalo (N. Y.), Perry Centennial racing events.
  - 30th—Sept. 1st—Chicago Motor Boat Club. Riverside Club run.
  - 30th—Sept. 1st—Columbia Y. C. (Chicago). Reliability race to Michigan City, St. Joseph and Bangsack.
- LATER IMPORTANT EVENTS.**
- Sept. 1st—Annual Regatta Hudson River Yacht Racing Association. Haverstraw Bay.
  - Sept. 2nd—4th—Annual Regatta of Motor Boat Club of Buffalo.
  - Sept. 25th—Oct. 4th—Perry Centennial Regatta, Louisville, Ky.



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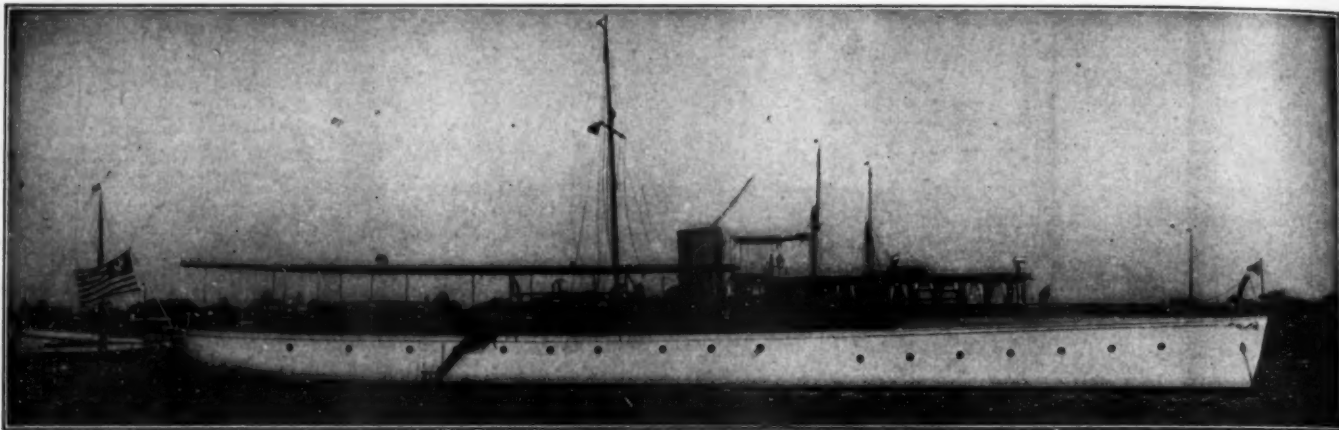
# COX & STEVENS

## NAVAL ARCHITECTS AND YACHT BROKERS

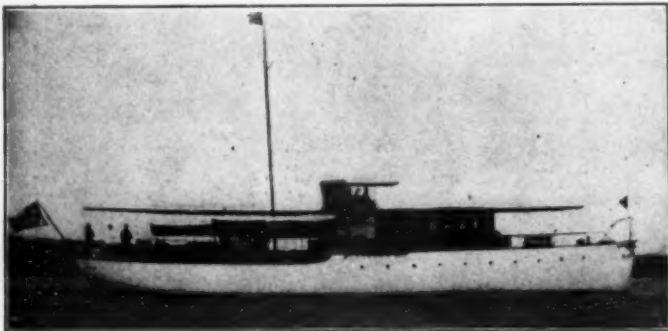
Telephone  
1375 Broad

15 William Street  
New York City

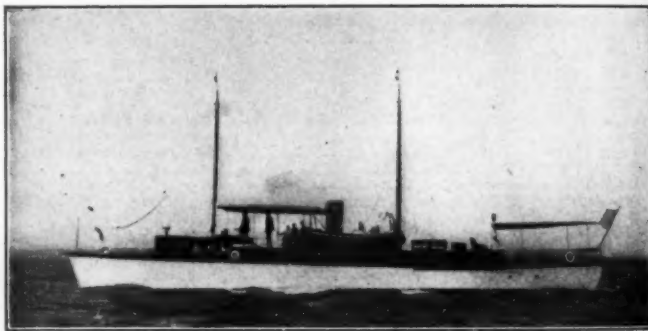
We have a complete list of all steam and power yachts, auxiliaries and houseboats available FOR SALE and CHARTER. A few are shown on this page. Plans, photographs and full particulars mailed on request



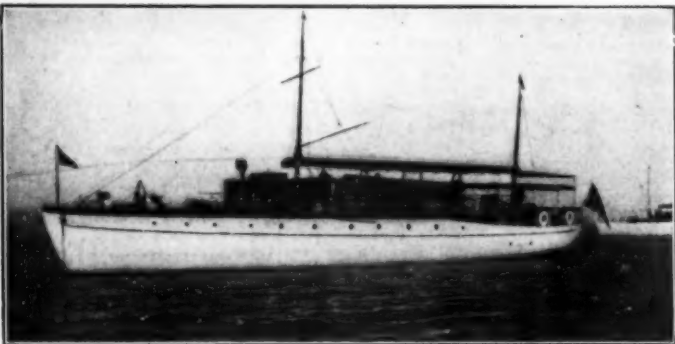
No. 885.—For Sale or Charter.—Exceptionally handsome, fast, steel, twin-screw cruising power yacht; 118 x 16.6 x 5 ft. Built 1910, from our design. Speed up to 18 miles; two 300 H. P. Craig motors, three double staterooms, main and dining saloons, two bathrooms, electric lights, etc.; handsomely finished and furnished. Probably the most desirable proposition ever offered in a large gasoline yacht. Apply to Cox & Stevens, 15 William St., New York.



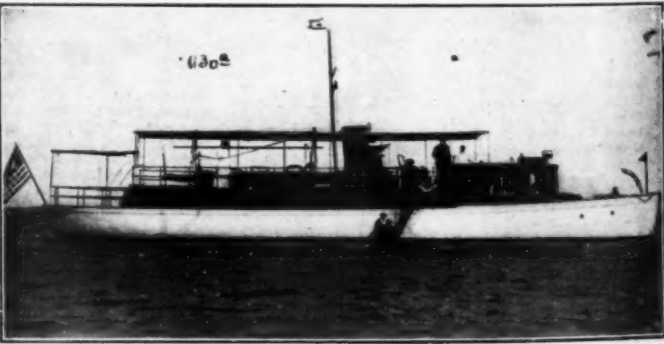
No. 961.—For Sale.—Very seaworthy, twin-screw, cruising power yacht; 90 x 17 x 4 ft.; recently built by Lawley from our designs; speed 12-13 miles; two 60 H. P. Craig motors; large deck dining saloon, three staterooms, bath, two toilets; independent electric lighting plant, hot water heating system, etc. Price very attractive. Cox & Stevens, 15 William Street, New York City.



No. 372.—For Sale or Charter.—Comfortable cruising power yacht; 83 x 14 x 4.6 ft.; speed 12-13 miles; 6 cylinder 20th Century motor (installed 1911); three staterooms, bath, dining saloon, etc.; mahogany finish throughout; exceptional bargain. Cox & Stevens, 15 William Street, New York City.  
*Please mention MOTOR BOATING.*



No. 1526.—For Sale.—Seagoing, twin-screw power yacht; 75 x 14 x 6 ft.; built 1911; speed 11 1/4 miles; two 60 H. P. Craigs; double and single stateroom, large saloon, bath, electric lights, etc. Price low. Cox & Stevens, 15 William St., New York.



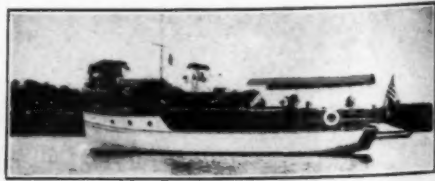
No. 1130.—In Commission.—Modern 70 x 14 ft. gasoline cruiser; speed 14 miles; 100 H. P. Standard; two large staterooms, bath, dining saloon, electric lights, etc. Price attractive. Cox & Stevens, 15 William St., New York.



No. 401.—For Sale or Charter.—Twin-screw, raised deck cruiser; 64 x 12 x 3.6 ft.; speed 10-11 miles; 20th Century motors; double stateroom, saloon, bath, electric lights, etc. Price very low. Cox & Stevens, 15 William St., New York.



No. 2053.—For Sale or Charter.—Bridge deck cruiser; 56 x 11 x 3.6 ft.; speed 11-12 miles; 35-45 H. P. 20th Century motor (new 1912); large stateroom, saloon, etc. One man control. Cox & Stevens, 15 William St., New York.



No. 2171.—For Sale.—Raised deck cruiser, 40 x 9.6 ft. Built 1910; 40 H. P. motor, speed 10 miles. Double stateroom and saloon. Sacrifice for quick sale. Cox & Stevens, 15 William St., New York. Telephone Broad 1375.

*Please mention MOTOR BOATING.*



TELEPHONES, 3479 CORTLANDT  
3171

BRITISH CORRESPONDENT

## STANLEY M. SEAMAN

YACHT BROKER

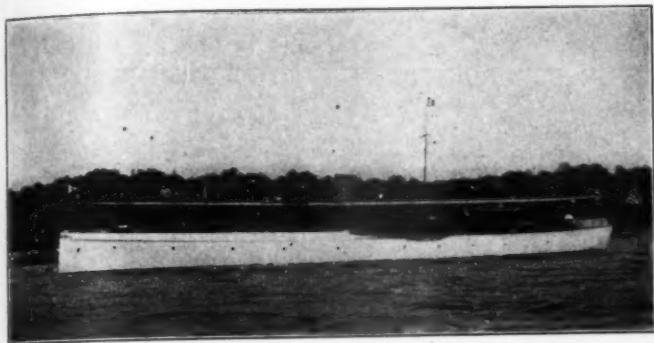
220 BROADWAY, N. Y.

(ESTABLISHED 1900)

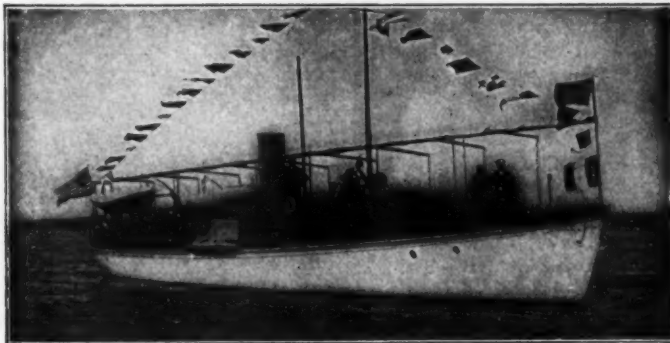
CABLE, "HUNTSEA," N. Y.

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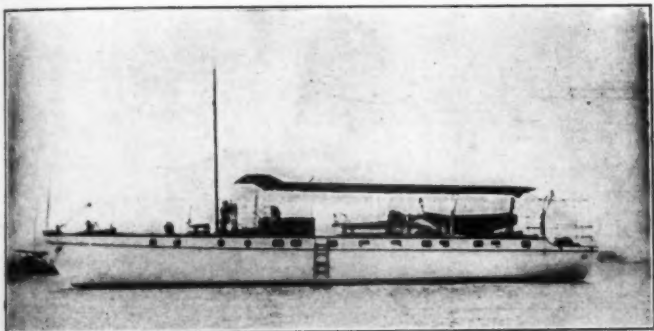
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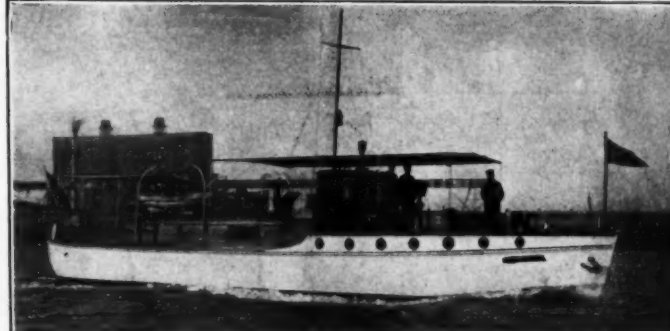
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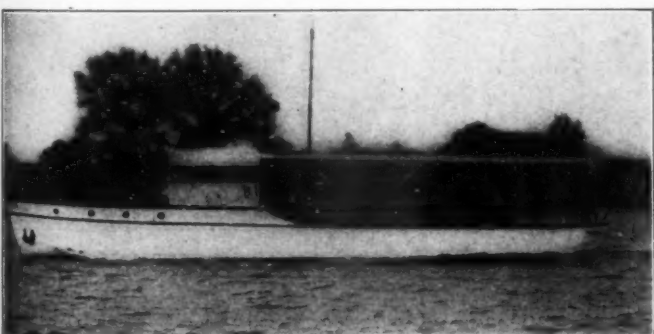
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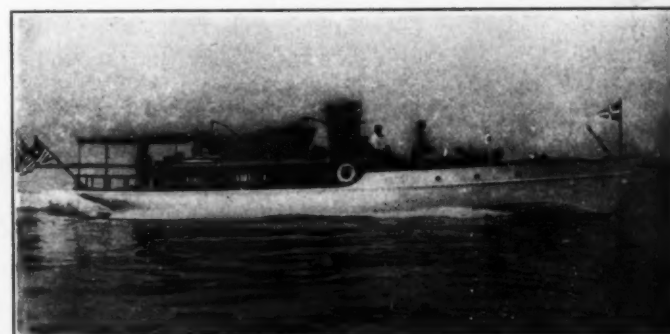
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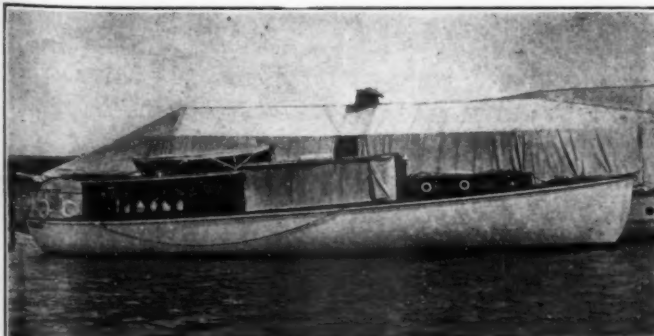
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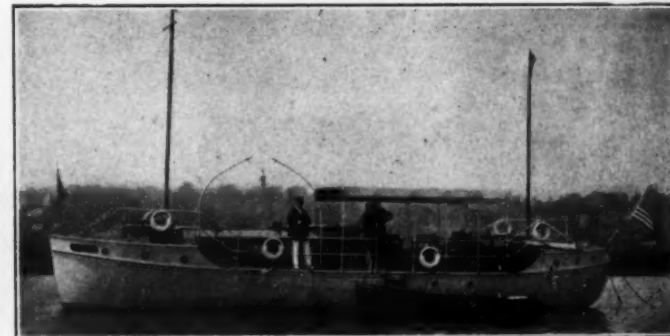
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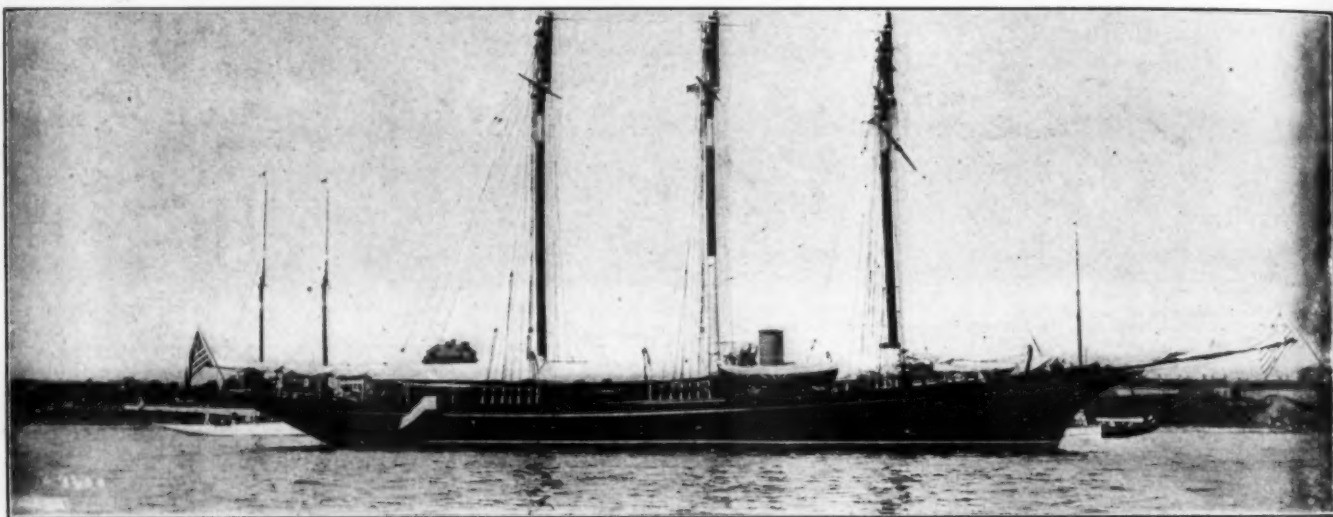
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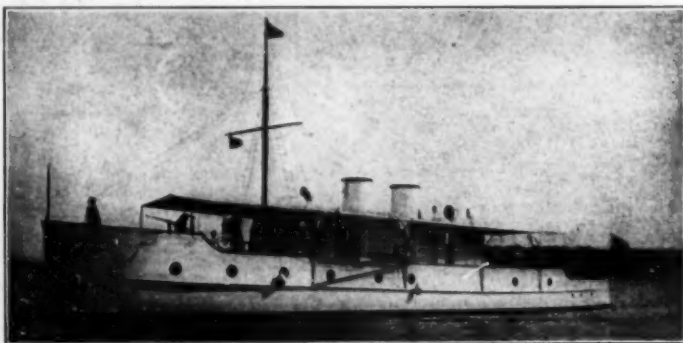
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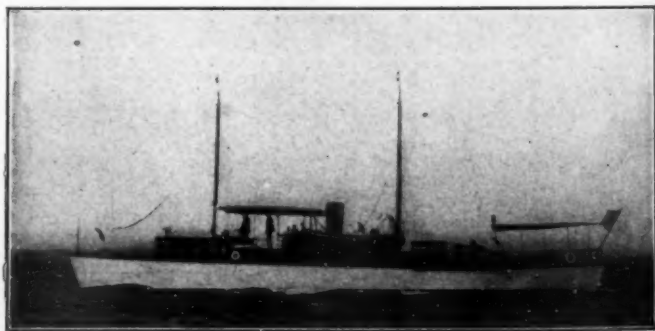
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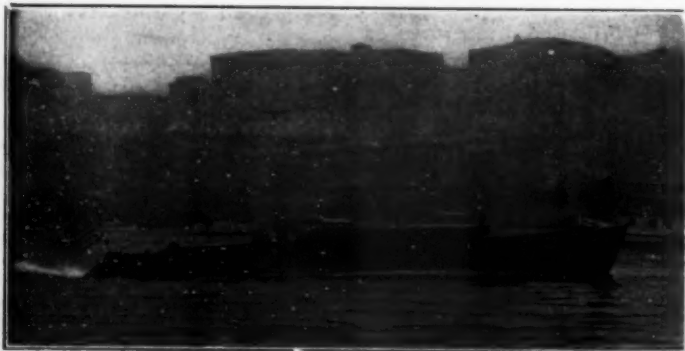
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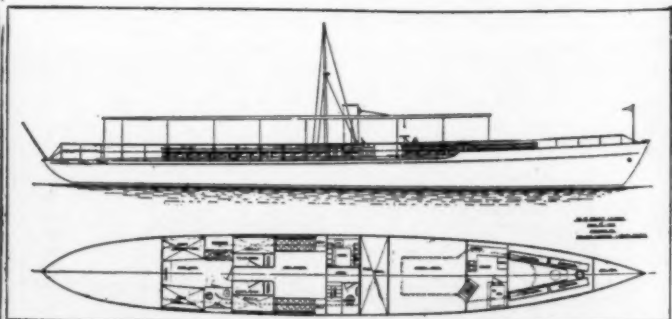
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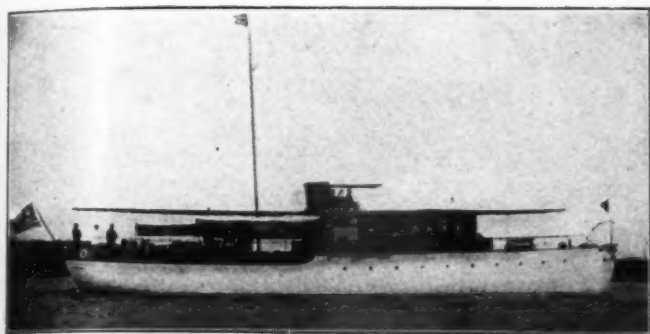
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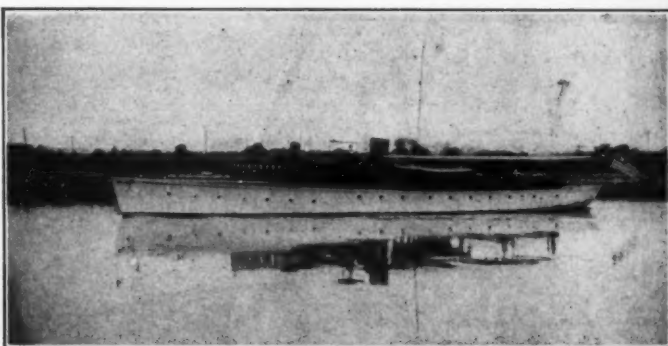
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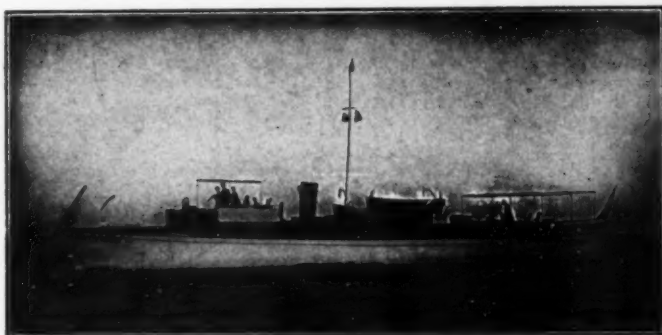
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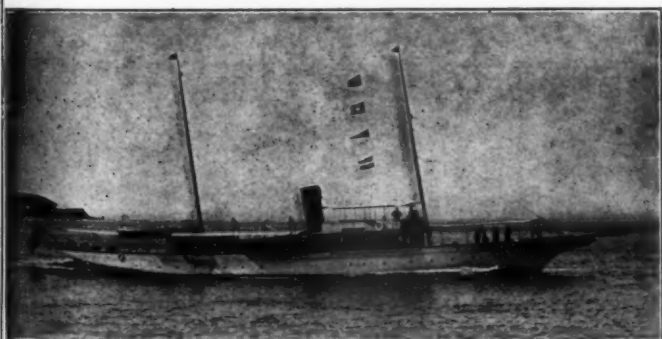
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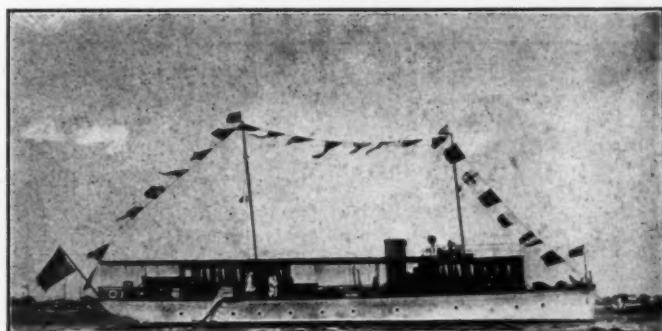
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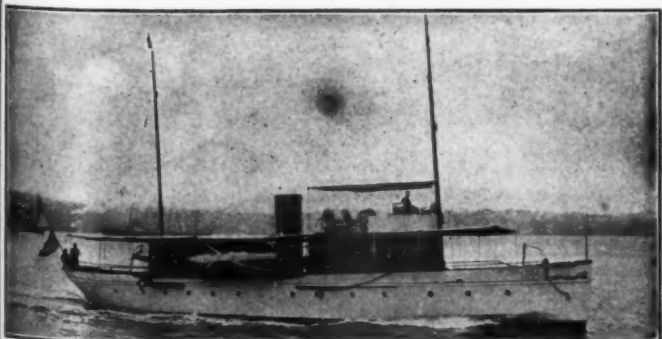
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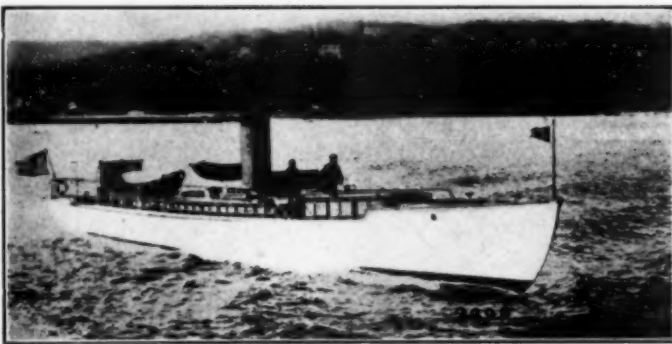
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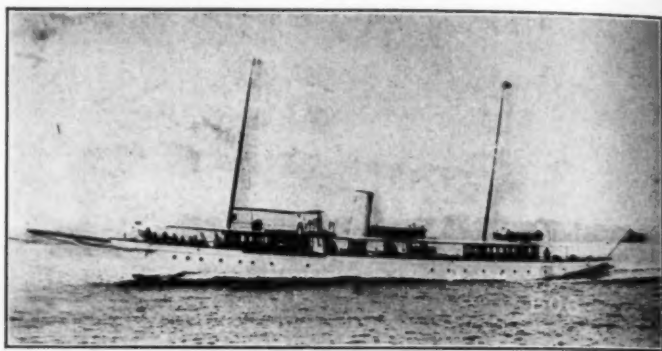
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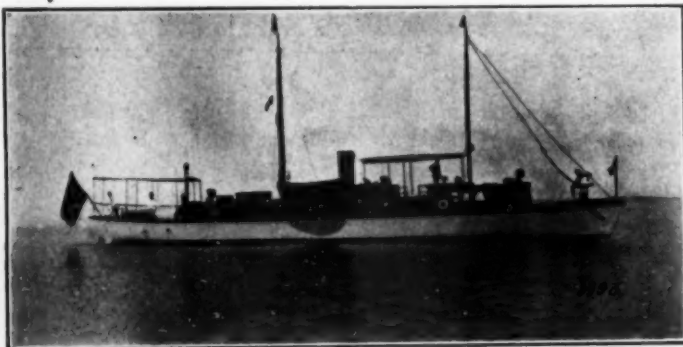
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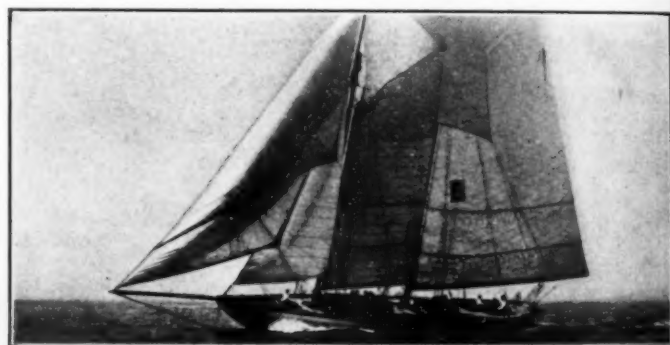
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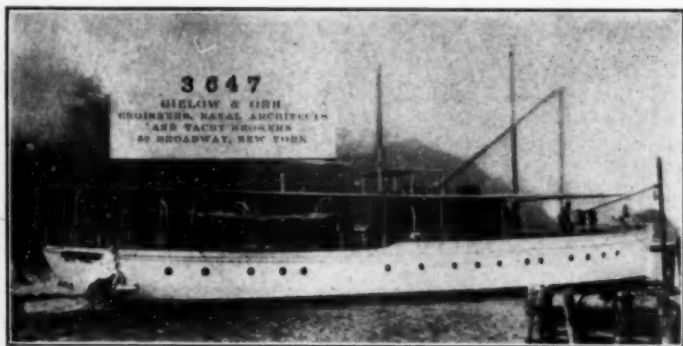
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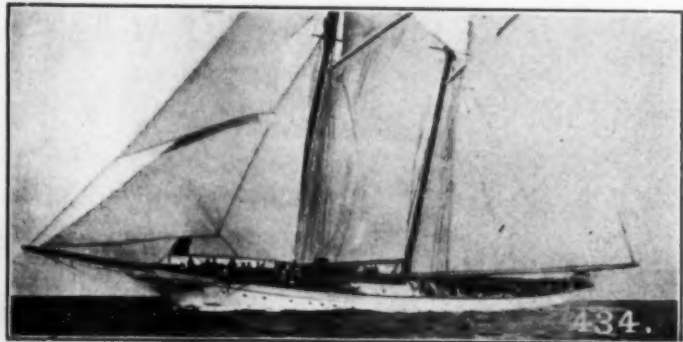
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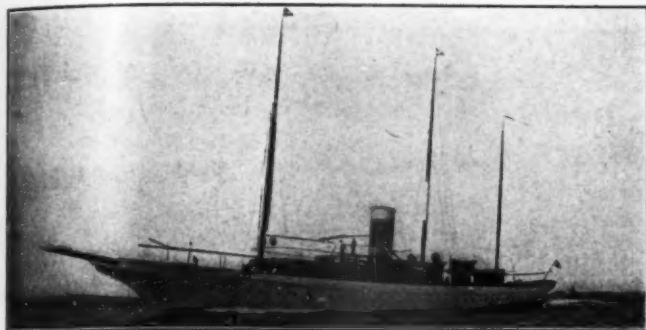
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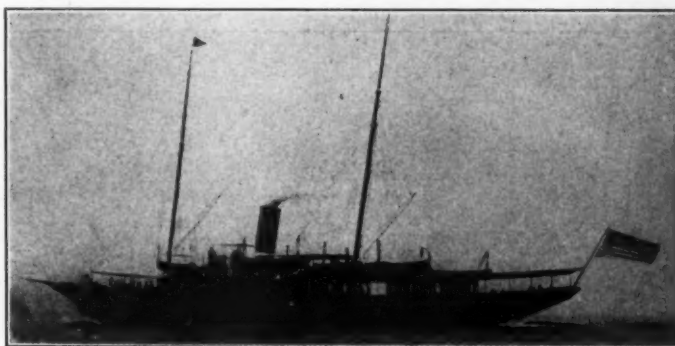
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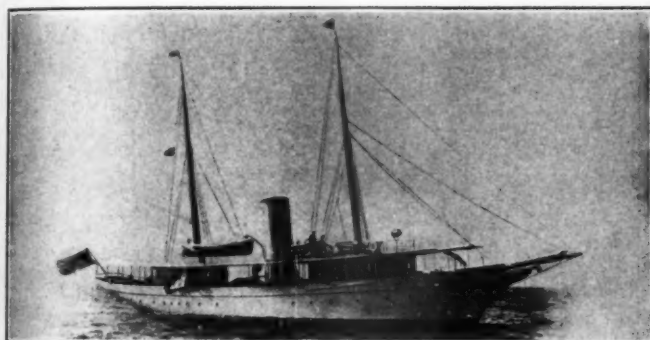
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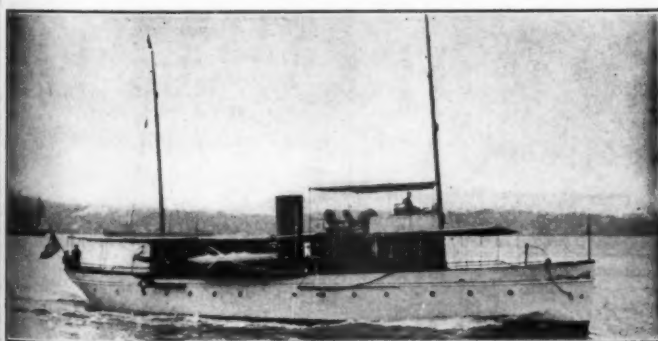
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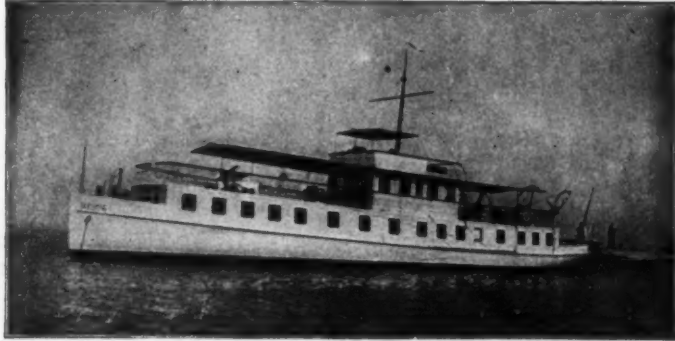
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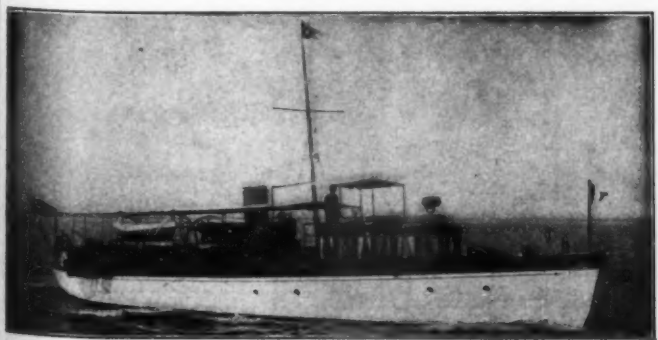
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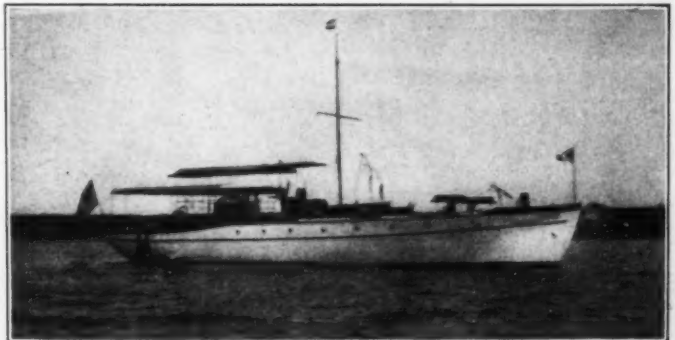
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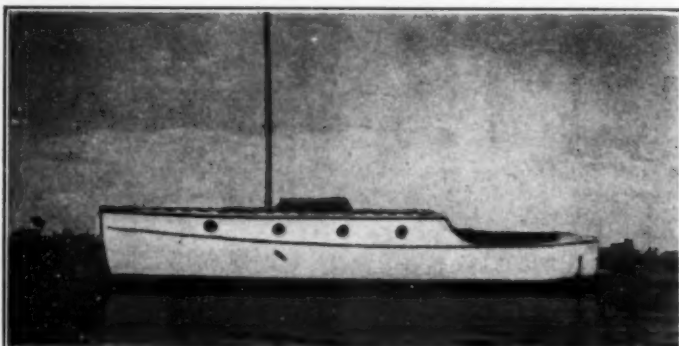
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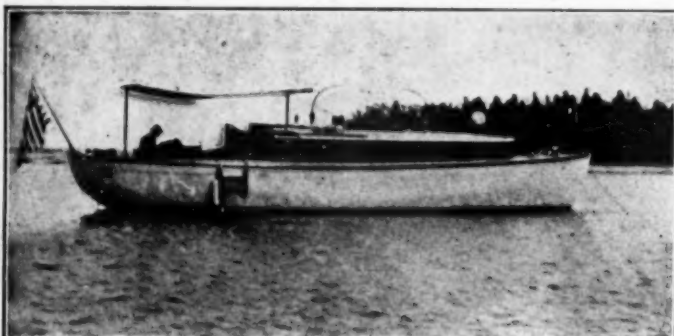
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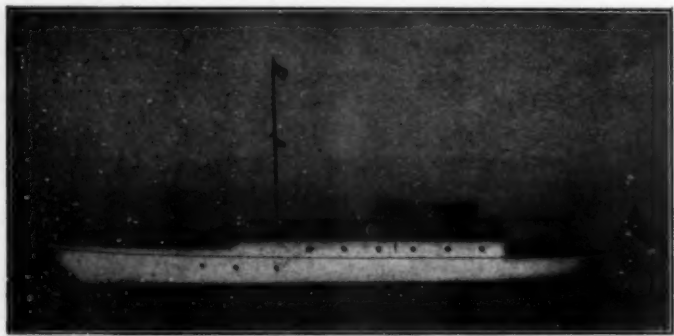
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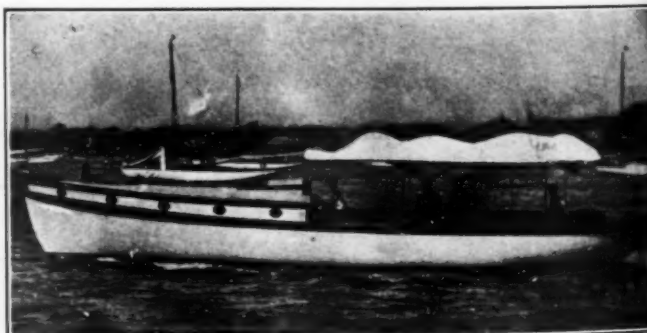
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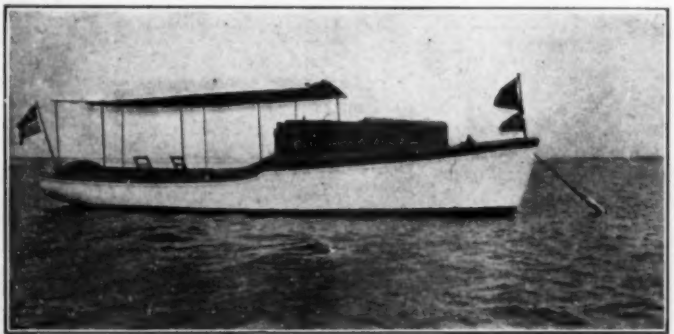
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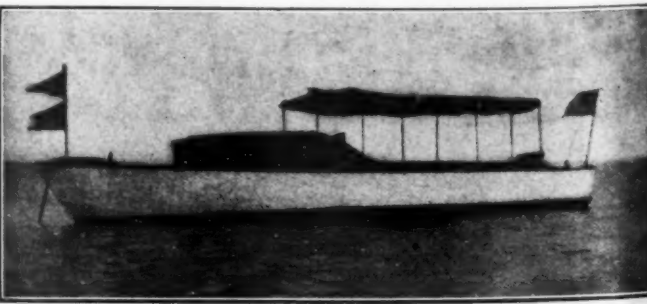
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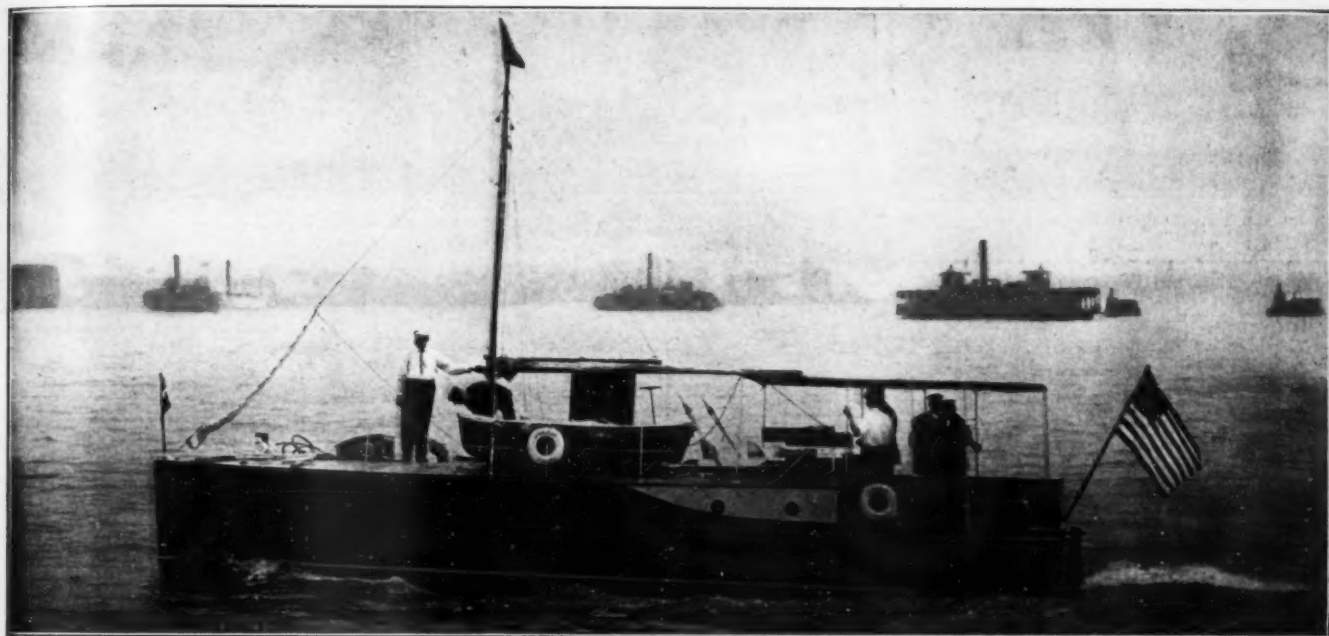
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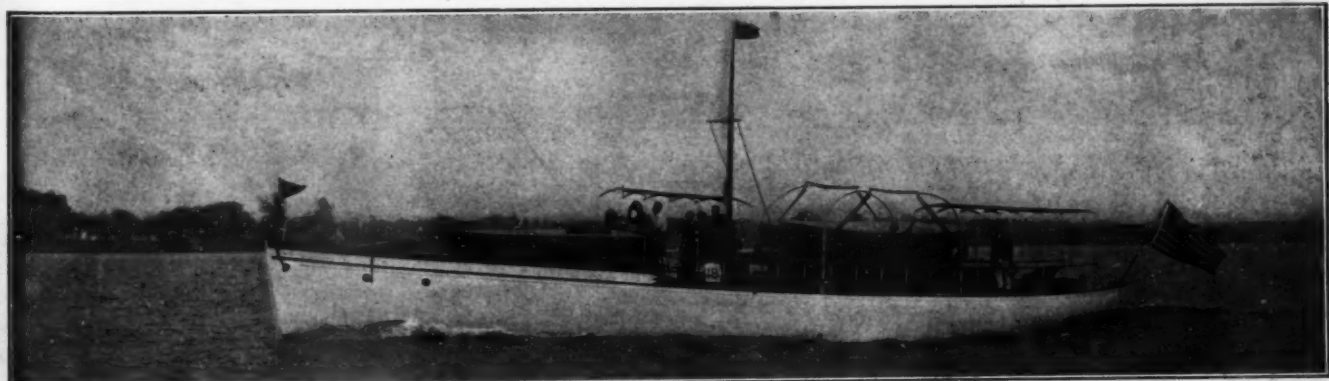
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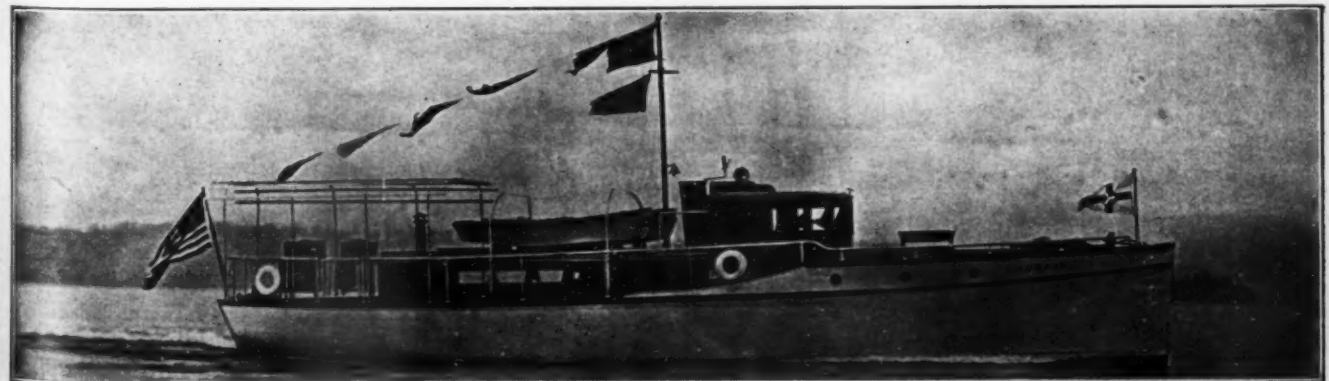
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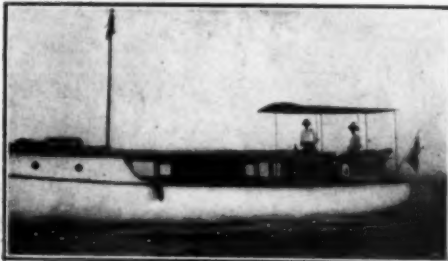
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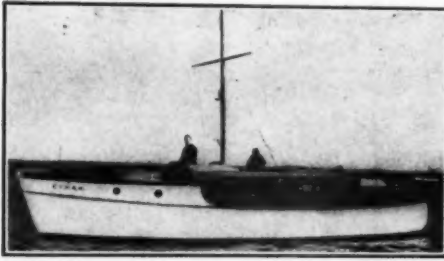
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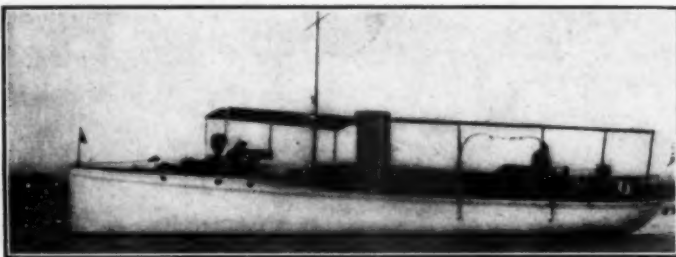
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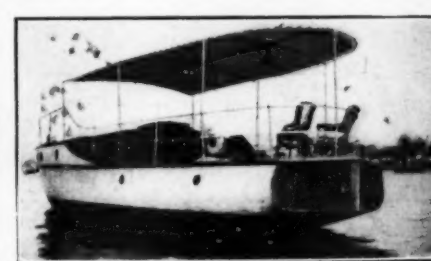
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40 H.P. Peerless, 4 cyl., 2 cycle, 1910, A-1 condition, Eisman coil and magneto (high tension), carburetor, Paragon gear, 4 1/2 x 5 1/2, 570 lbs., aluminum base.....	500.00
40 H.P. Roberts, 4 cyl., 2 cycle, 1912, nearly new, coil, carburetor, Bosch magneto.....	450.00
40 H.P. Hirschell-Snellman, 4 cyl., 4 cycle, auto engine, 4 1/2 x 5 1/2, aluminum base, new.....	180.00
35 H.P. Giant, cyl., 2 cycle, new carburetor, coil.....	600.00
30-40 H.P. Reeves-Grady, 4 cyl., 4 cycle, 5 1/2 x 8 1/2, splendid condition, reverse gear, coil, carburetor, shaft,	

DESCRIPTION	PRICE
wheel, stuffing box, stern bearing, (12 ft. shaft) Motinger magneto.....	850.00
30 H.P. Van Eyke, 3 cyl., 2 cycle, 1913, used 3 weeks only, like new, 5 x 5, weight 300 lbs., coil, Rayfield carburetor.....	300.00
28-30 H.P. Columbia, 4 cyl., 4 cycle, 4 1/2 x 4 1/2, full outfit.....	290.00
28 H.P. Truscott, 4 cyl., 4 cycle, 1910, first class condition, coil, carburetor, reverse gear, 6 x 7, weight 3,200 lbs.....	350.00
27 H.P. Wolverine, 3 cyl., 4 cycle, 7 x 9, first class condition, M&B, shaft, wheel, coil, gear, carburetor, rebuilt.....	975.00
25-40 H.P. Sterling, 4 cyl., 4 cycle, 1912, practically new, perfect condition, Schebler carburetor, Bosch magneto, 7 feet 1 1/2 in. bronze shaft, stuffing box, stern bearing, 24 in. three blade propeller, reverse gear on extended base.....	650.00
25 H.P. Louier, 1907, 4 cyl., 5 x 5.....	375.00
24-32 H.P. Eldystone-Globe, 5 1/2 x 5 1/2, 4 cyl., built-in gear.....	450.00
24 H.P. Gardner, 4 cyl., 4 cycle, 5 x 5 1/2, Schebler carburetor, jump spark, brand new.....	300.00
18 H.P. Lamb, 3 cyl., 4 cycle, 5 1/2 x 6, with reverse gear, coil and spark plugs, carburetor, 450 H.P.M., 1,000 lbs.....	275.00
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15 H.P. Stamford, 2 cyl., 2 cycle, electrical equipment.....	100.00
15 H.P. Parker, 3 cyl., 2 cycle and outfit, less shaft.....	200.00
15 H.P. Fairbanks-Perro, 2 cyl., 2 cycle, reverse gear, 12 ft. bronze shaft, propeller, coil, carburetor.....	215.00
12 H.P. Parker, 2 cyl., 2 cycle, 4 1/2 x 4 1/2, weight 475 lbs., good condition, 1910, coil, mixing valve.....	200.00
12 H.P. Brennan, 3 cyl., 4 cycle, horizontal opposed, special model, brand new, carburetor, starting handle, spark plugs.....	225.00
12 H.P. Clay, 2 cyl., 4 cycle, new 1913, with outfit, 5 1/2 x 5 1/2.....	375.00
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12 H.P. White, 4 cyl., 4 cycle, coil, carburetor, 4 1/2 x 5, reverse gear, propeller outfit.....	275.00
12 H.P. Eagle, 2 cyl., 2 cycle, make and break, Joe's reverse gear, 1910 model, brand new, 6 ft. shaft, 20 in. three blade propeller, stuffing box, coil, carburetor, muffler, complete, a bargain.....	200.00
12 H.P. Dunn, 3 cyl., 4 cycle, vaporizer, coil and propeller.....	110.00

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10 H.P. Palmer, 2 cyl., 2 cycle, 4 1/2 x 4 1/2, excellent condition, shaft, propeller, stuffing box, coil, muffler, carburetor.....	120.00
10 1/2 H.P. Whitehall, 3 cyl., 2 cycle, 3 1/2 x 4, carburetor, Atwater-Kent ignition, starting handle, muffler, propeller.....	115.00
10 H.P. Springfield, 2 cyl., 2 cycle, carburetor, 4 1/2 x 4 1/2, 315 lbs.....	95.00
10 H.P. Gile, 2 cyl., 2 cycle, 1912, reverse gear, K-W magneto, 4 x 4 1/2, coil, carburetor, propeller.....	100.00
8-10 H.P. Lackawanna, lighting outfit, Diehl dynamo.....	300.00
8 H.P. Tuttle, 2 cyl., with reversible propeller outfit, coil and muffler, thoroughly overhauled.....	125.00
8 H.P. Toquet, 2 cyl.....	85.00
8 H.P. Atlantic, 2 cyl., nearly new.....	100.00
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7 H.P. Grand Rapids, single cyl., 6 x 6, coil, carburetor, muffler, coil, 1912, practically new.....	50.00
7 H.P. Fairfield, 6 x 6, excellent condition, complete outfit.....	60.00
6 H.P. Pope, 1 cyl., 4 cycle, Schebler carburetor, shaft, wheel, stuffing box, coil, one-way clutch, 2 wrenches, starting handle and coupling.....	30.00
6 H.P. Powell, open base, complete equipment, carburetor, Connecticut coil, muffler, shaft, wheel, stuffing box.....	30.00
6 H.P. Dion, coil, muffler, carburetor, 4 cycle.....	30.00
6 H.P. Eagle, model O make and break, Schebler carburetor, coil, 1912, practically new.....	30.00
5-7 H.P. Racine, 5 x 5, 1911, in fine condition, bronze shaft and propeller, stuffing box, muffler, M&B.....	30.00
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5 H.P. Jager generator set, single cylinder, 4 cycle, practically new, 1911, coil, carburetor, muffler, direct connected generator (24 lights 1/2 c. p. each), bilge pump, air compressor.....	500.00
3 H.P. Brooks, carburetor, spark plug and starting crank.....	25.00
3 H.P. Wright, carburetor, spark plug.....	35.00
3 H.P. Pierce, one cyl., 2 cycle, with reverse gear, Schebler carburetor, coil, shaft, propeller, stuffing box.....	40.00
2 1/2 H.P. Wright, carburetor, spark plug.....	35.00
2 H.P. Pierce-Racine, with Schebler carburetor, coil, propeller, shaft, stuffing box, muffler.....	25.00
20 H.P. Balaco, 4 cyl., 4 cycle, 4 x 6, practically new, with Bosch magneto, reverse gear, full equipment, less shaft and propeller.....	600.00

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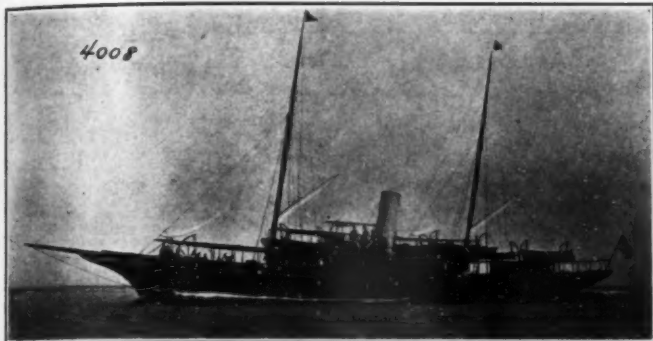
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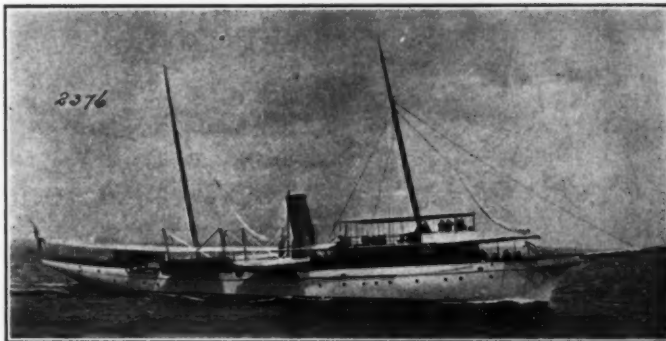
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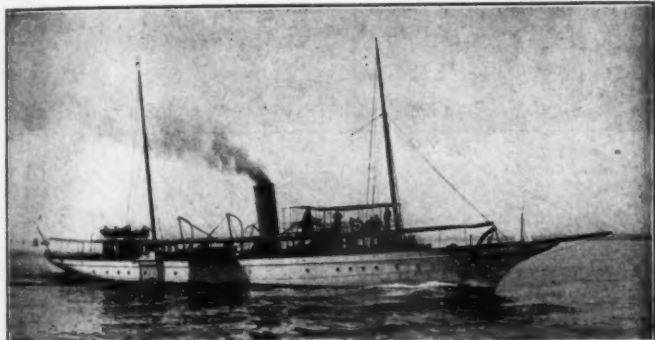
*Our list comprises all the available yachts for sale and charter. Below are a few of our offerings. If none of these appeal to you write us your requirements.*



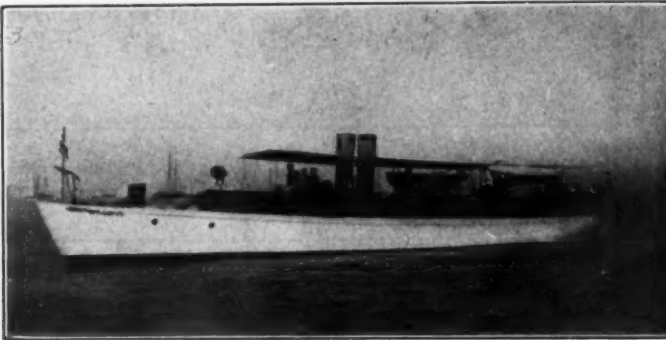
4008.—200 ft. twin-screw, ocean-going, steam yacht; speed 16 knots; handsomely appointed; splendid accommodation.



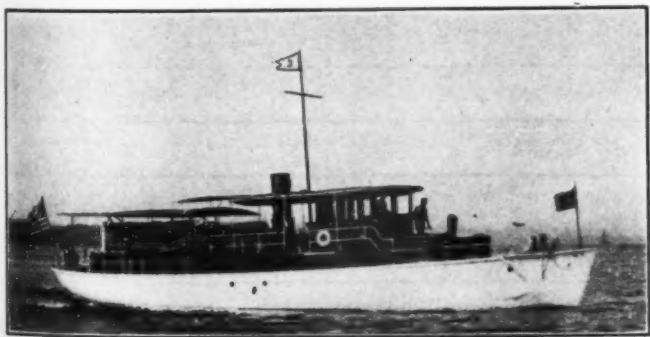
2376.—175 ft. steam yacht; splendid accommodation; speed 18 knots; price very attractive.



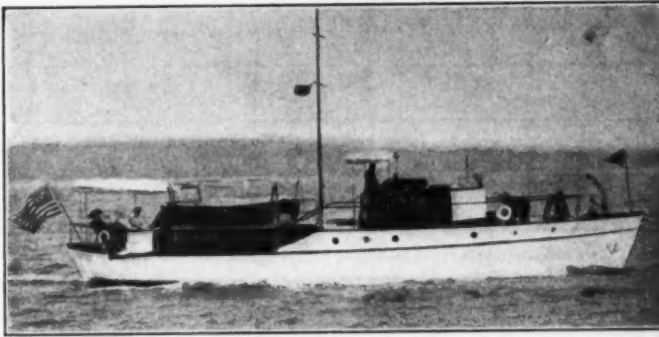
3725.—180 ft. steam; splendid accommodation; perfect condition; speed 20 knots; price very attractive.



3693.—90 ft. steam; suitable for ferry service; speed 18-20 miles; snap for quick sale.



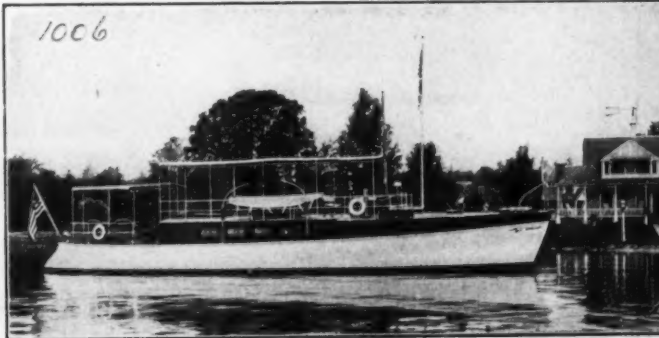
1333.—Twin-screw; 70 ft.; 3 staterooms.  
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1137.—Sale or Charter.—Twin-screw gasoline; 60 ft.; three staterooms, dining and main saloon; low figure.



1370.—60 ft.; two staterooms and saloon; price attractive.  
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1006.—37 ft.; two staterooms; saloon, berth 6; two toilets, etc.; 50 H. P.; speed 11 miles; like new.

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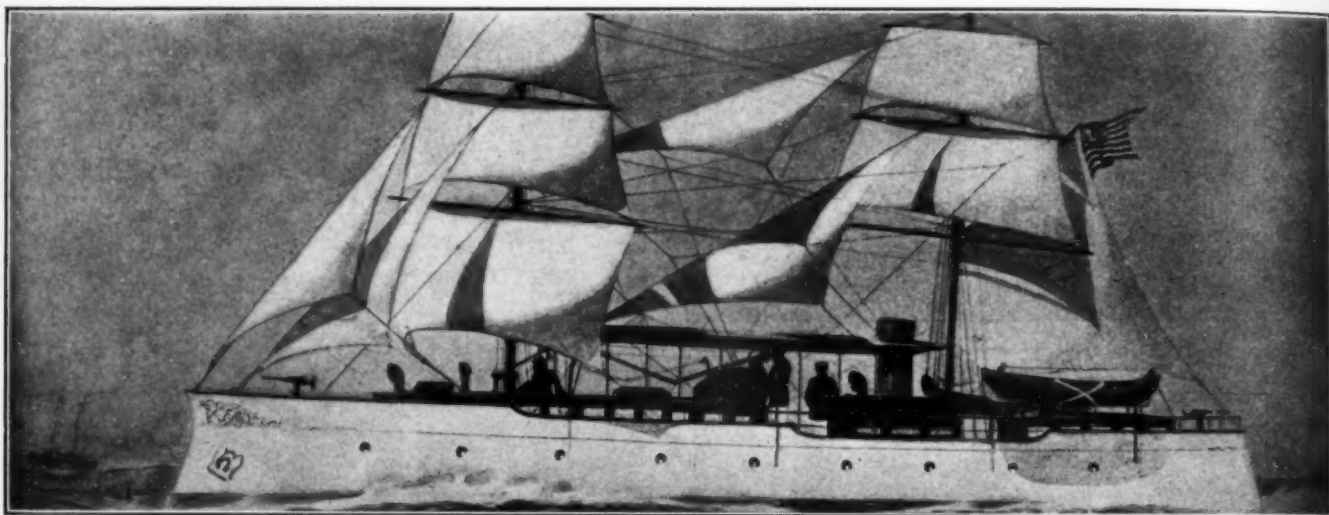
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No. 353—Twin-screw gasoline yacht; 90 ft. long; Seabury build; new 1911; Speedway motors.

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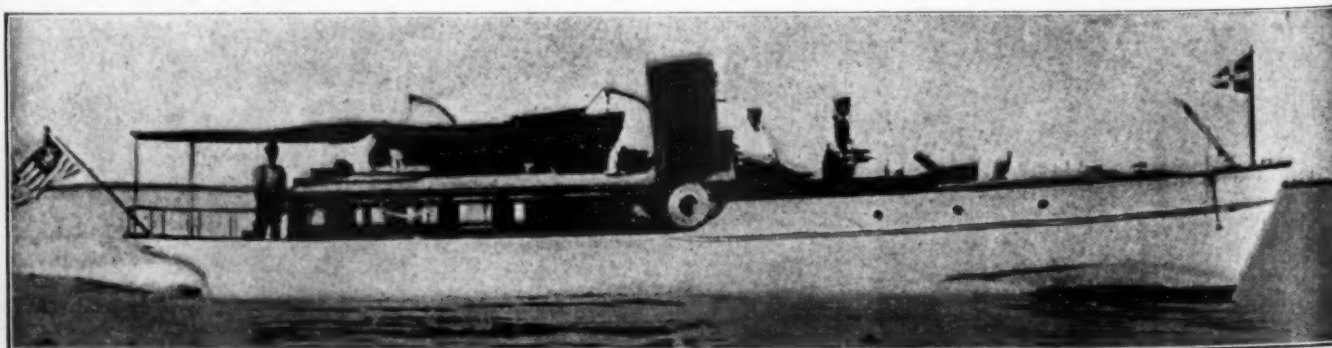
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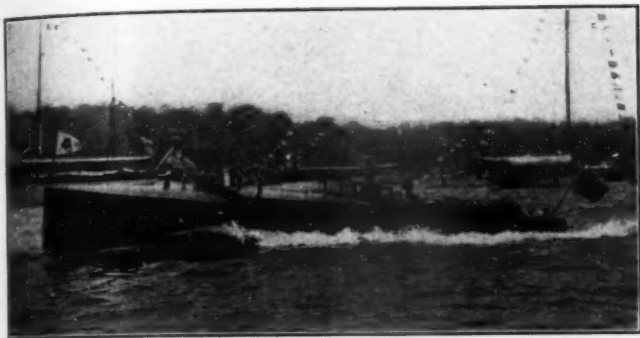


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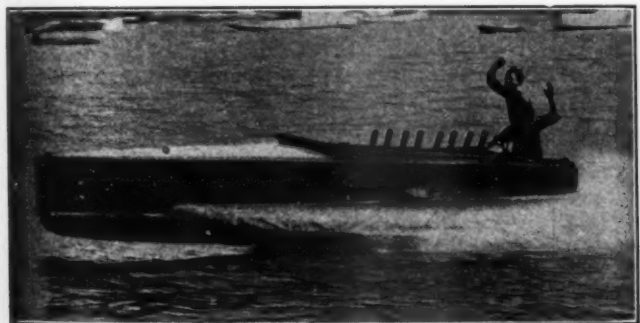
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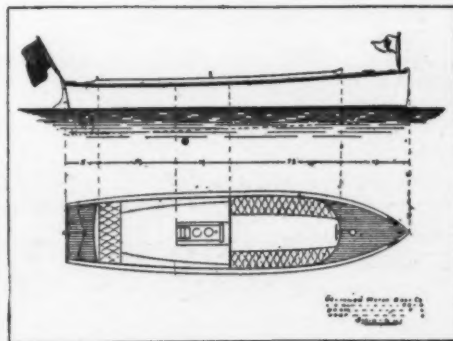
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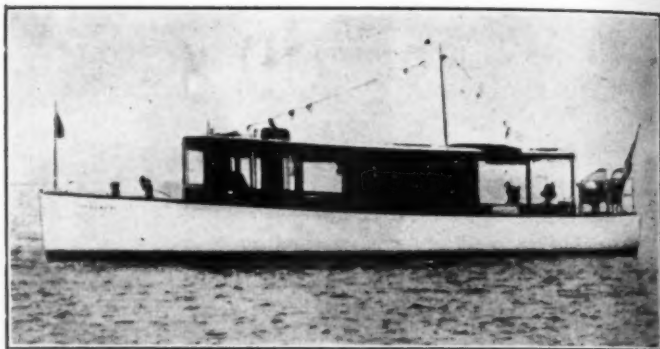
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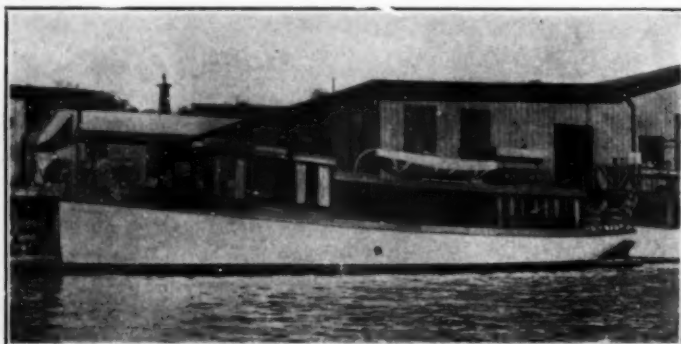
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C-102.—Glass Cabin Day Cruiser. 40 x 8 x 2 ft.; designed and built by us in 1910; Speedway 4 cylinder, 32-40 H. P.; speed 12-13 miles.

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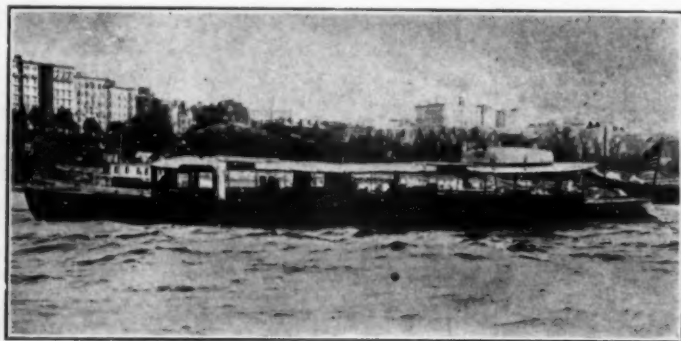
C-103.—Glass Cabin Cruiser. 50 x 10 x 4 ft.; designed and built by us in 1907; Not in commission in 1909-10-11; Speedway 4 cylinder 32-40 H. P.; speed 10-11 miles.

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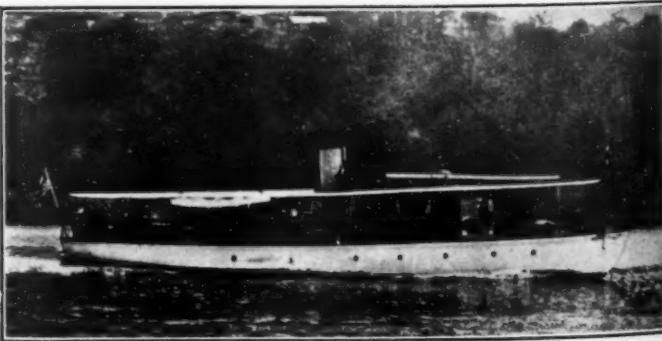
C-104.—Hunting Cabin Day Cruiser. 50 x 6 ft. 6 in. x 3 ft.; designed and built by us June, 1908; Speedway 6 cylinder 100 H. P.; Speed 22 miles; delivered in excellent condition.

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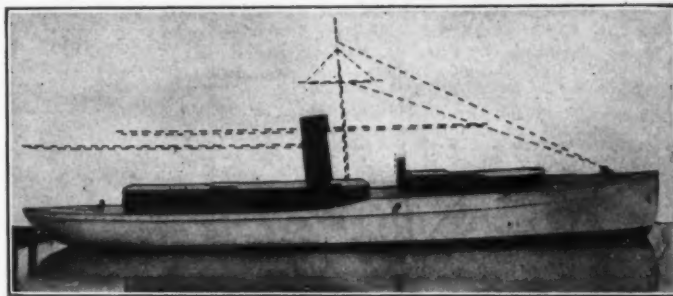
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ORIGINAL "V-BOTTOM" MOTOR BOATS

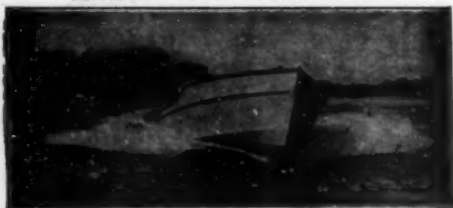


FIGURE III—A notable 34' "Hand V-Bottom," which has  
made good on all waters. A real salt water sea boat, with  
speed and comfort.

YOU CAN BUILD ONE. THERE IS NO STEAM BENDING.

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I can also supply a limited number of complete boats built  
to order.

## WM. EDGAR JOHN

Naval Architect and  
Engineer

328 Chestnut St.  
Philadelphia, Pa.



## The Waters of Tomorrow

(Continued from page 8)

their guns into the dory and wade for the shore. Frank, with one of the *mozos*, took his rod and reel, and in the next hour landed ten fine big cabrillas and a white sea bass. These he hauled alongside, but, as we had no use for them, they are turned loose. Just at dark came a hail from shore, and the dory was sent in to pick up the hunters. Phil and Harry each brought in a fine white-tail, but Ed had not returned.

While the boys had been away I had helped the cook prepare dinner, and now, not knowing when Ed would get back, we turned to. The first course was oysters on the half shell. Then came cabrilla a la Commadore. I had better tell you about fish a la Commadore, for you may wish to try it. First, prepare your fish and dry it. Rub salt and pepper on thoroughly, both inside and out. Place two small quarters of garlic inside the fish. Next, take a baking pan—a double one if you have it—and pour in a half pint of good olive oil. Add two tablespoonfuls of butter, and when this is good and hot, slice four medium-sized onions, six green peppers, and five tomatoes. Lay your fish in the hot olive oil, and pour the onions, peppers and tomatoes over it. Salt and pepper, and with the addition of a liberal amount of paprika, set it in the oven to bake. Baste often, and when about half done, add a small glass of white wine. If this does not please you, nothing in the fish line will. Green corn on the cob and sliced cucumbers helped complete our feast. The boys were surprised to find corn and cucumbers for dinner in December, but here on the west coast of Mexico green corn, cucumbers, and tomatoes are our winter diet. We finished with a small black and our Flores del Valle.

## Beaten By the Clock.

(Continued from page 9)

have a combined capacity of 700 gallons, and, with the two auxiliary tanks, 900 gallons of gasoline may be carried, which is sufficient to drive her at full speed to Bermuda and half way back again. An emergency rig will be carried, consisting of two masts stepped right down to the keelson, on which may be spread a staysail and gaff-headed fore and mainsails.

The new boat was built in Eastchester, N. Y., under the supervision of Mr. Hadley himself, from designs by Desmond, a man who knows his business. Three separate gangs of workmen were tried before the men that finished the job were engaged, and all the while Hadley, game and unperturbed, in spite of repeated reverses, and M. H. Niles, owner of the original Talequah, stayed on the job with one eye on the calendar and the other on the Bermuda Race. The boat cost Hadley a lot of money, built as she was, under high pressure, to say nothing of the loss of 30 odd pounds in weight, the result of many a sleepless night, but in the face of defeat and disappointment, he smiled. "We'll be ready for them next year," he said—and he will.

## Helpful Hints.

### Replacing Spark Plugs.

Spark plugs should not be forced into position by severe wrench action. They should seat firmly against a copper-asbestos gasket with but little more force than can be applied with the fingers.

### Protecting the Magneto.

To insure the magneto against intermittent action due to moisture getting into the distributor, a leather hood that completely covers the magneto is practical protection.

### Irregular Firing.

Moisture on the exposed part of the porcelain will often cause a spark plug to fire irregularly. This may be avoided by greasing the porcelain with vaseline or hard grease in wet weather.

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Auxiliaries and Commercial Vessels.

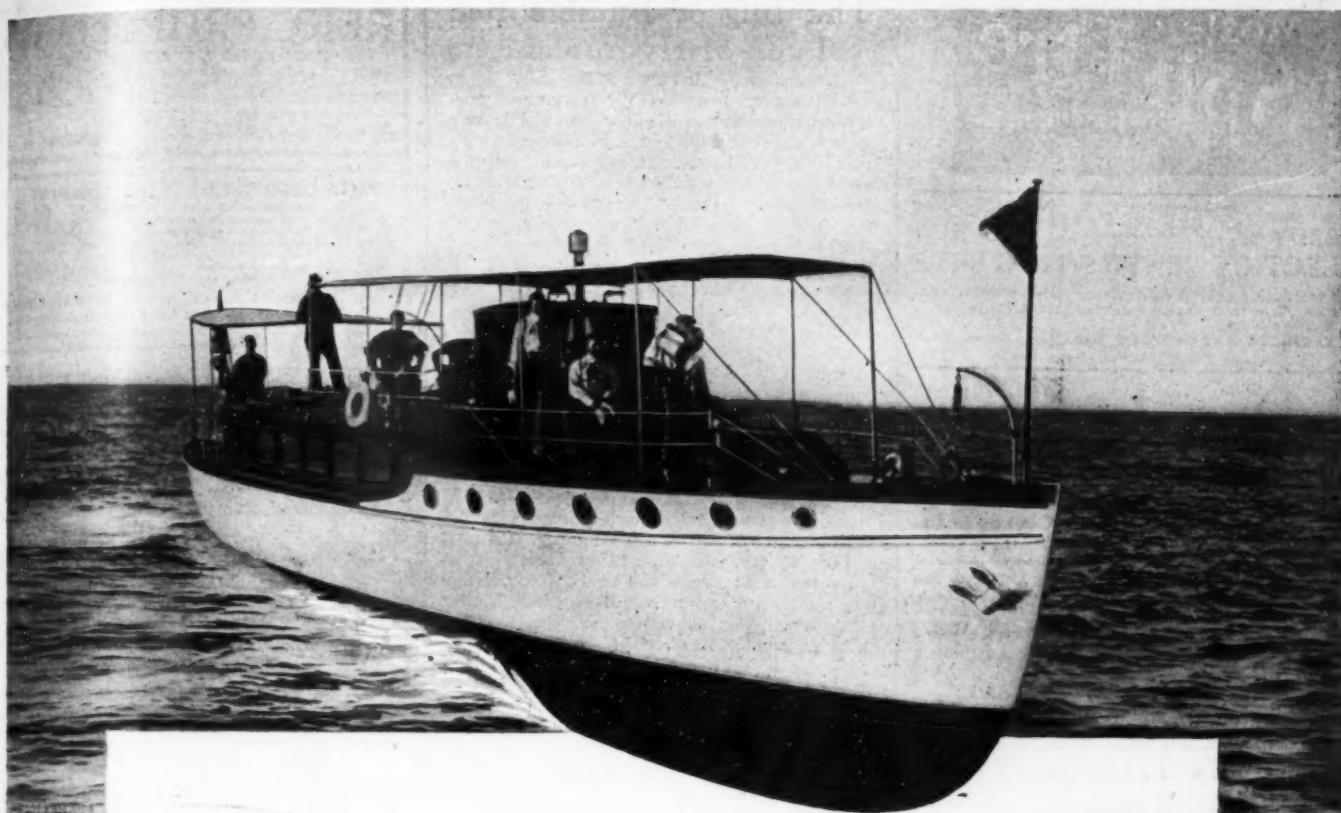
Designer of over 400 successful motor craft since 1900.  
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Your boat will have a clean, smooth, speedy bottom that will keep free of barnacles and all other forms of sea life if you use Valspar Bronze Bottom Paint.

This is a compound of Valspar—the waterproof varnish, very tough and durable—with pure French leaf bronze. A perfect anti-fouling paint.

Ready to use from the can and will not harden or turn green in it. Dries quickly.

Apply directly to the wood, stirring thoroughly and continually, and brushing out each coat well. Use three coats, rubbing the last lightly with sandpaper.

One application good for all season. Covers 600 square feet to the gallon—one coat. Price, \$1.50 per quart can.

### VALENTINE'S MARINE PRODUCTS

Valspar Enamels, water and weather resisting; Valentine's Yacht White—gloss or flat finish; Valentine's Yacht Black—semi-gloss, will not turn gray; Valspar Aluminum Paint—does not chip or peel in the weather; Valspar Brass Polish Preservative—to protect polished brass; Valspar Boot Topping—red or green; Celox Wood or Metal Primers and Fillers and



*Send for nearest dealer's name, booklets on boat finishing, and particulars of above products.*

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(Established 1832)

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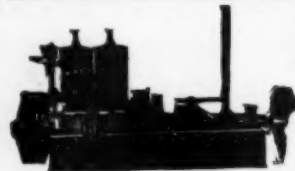
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1 1/2-20 H. P.  
1 to 4 cylinders

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Get our 1913 Reversing Propeller Catalogue now and compare our wheel to any reverse gear. Then you will install our outfit.

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Waterproof  
Solid braided cotton with center of phosphor bronze wire. Strong and durable, and will not stretch or rust. Send for sample.

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Sale. Best Sea Boat Built. \$150 up. Send for Catalogue.

**KNOCK DOWN DORIES EASY TO BUILD.**

Send for Free E. D. Circular and Prices.

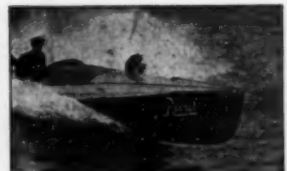
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Brass Frames and Fittings covered with government khaki duck. The best hood on the market. Send for prices and catalogue.

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Is your boat worthy of a name? Then it's worthy of

**A HICKOK NAME PLATE**

They're the best made and they are not expensive. Write us today giving name of boat.

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**LISK MARINE ENGINES**

4 CYCLE ONLY

1 to 6 Cylinders 5 to 40 H.P.

Manufactured by

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The most serviceable light hull in use. 14 miles per hour, for \$250.00. High grade construction and equipment. Length 20 ft.

**B. N. MORRIS**, 125 State Street  
Vandalia, Mo.

**The Bug or Bumble Bee Type of Hydroplane.**

To the Editor of MoToR Boating, Sir:

Last winter I wrote to you stating some information about a Cadillac automobile engine which I installed in a Pioneer 23' x 3'6" runabout. Well you certainly handed out the right dope in the installation of engine and the size of wheel. The best speed I made over the mile course was 3.02, 20 miles an hour. That's going 4 or 5 miles faster than what anybody ever expected around here. If I would have had her ready for the motor boat races here I could have won the cup. The fellow that won the free for all championship is mighty scared so he is building a faster one next season. I would like to find out if you could recommend to me some small fast hydroplane suitable for my Cadillac engine. I would like to make 25 or 30 miles an hour. How would a 14 ft. Bug or a 13 ft. Bumble Bee make out? I might say that the engine doesn't give the least bit of trouble and I think it is one of the best on the river.

J. A. C., Winnipeg, Conn.

[We believe you are getting exceptionally good results at present and doubt if you could get a very great increase in speed with the same engine in any type of hull. The Bug or Bumble Bee type of hydroplane will undoubtedly give you some increase, but both of these hulls, especially the former, show greater efficiency with more power than you are using. Another hull which we believe is of excellent design is the 20 ft. hydro-runabout described in the May and June, 1912, issues of MoToR Boating.]

We have recently heard of a boat built from these designs that was temporarily equipped at the end of the season with a 5 h.p. motor and made practically 12 miles per hour, which is remarkable inasmuch as this hull was designed for about 30 h.p., and with your engine should prove considerably faster than your present boat.

As to whether you would have to use another wheel on the new hull, it is probable that you would but we would advise you to first try out your present wheel and advise us of the results and then we will be pleased to let you know whether any change is recommended.

To be accurate, with a 4 1/2" x 4 1/2" motor at 900 r. p. m. and weighing 270 pounds, with one person aboard, this boat made 11.8 miles per hour, and with two persons she covered 11 1/2 miles per hour. The weight of the entire outfit with the crew of two persons of average weight was 1450 pounds. The hull alone with equipment aboard but without the motor weighed 760 pounds.]

**Joy-Riding on the Wave.**

It is in its second year, but a sprightly youngster—that new aquatic sport, "aquaplaning." Last year at the opening of the season it was a stranger to the public, but after a few really enterprising managers had put the aquaplane races on their programs, it became instantly well-known and in every case the appearance of this new sport proved to be the feature of the meet that introduced it.

In mechanical construction the aquaplane is not very elaborate. It consists of a wide plank, generally of cypress wood, so modeled that it will ride upon the water with an even keel. The contrivance has been patented and wherever it has been used as a feature in aquatic sports it has proved the most attractive of the exhibitions.

The experiences of last year established as a fact what was claimed by the promoters of the sport, that it is a fun-producing contrivance. The rider stands upon the plank and has no chance of being cast overboard, unless he is unfortunate enough to lose his balance. In that event he gets no worse than a good ducking, and what is a ducking in an aquatic event? The rider who goes into the suds is about certain to bring down the house and the spontaneous applause of one's fellows is a desideratum not to be sneezed at.

But as a bathing-beach toy, the aquaplane shows at its best. Boys and girls have great sport in riding and greater sport in tumbling off the thing. This summer all the watering places will be equipped with this fun-provoking appliance.

This aquaplane sport, when introduced in racing form, partakes very much of the nature of "scorching" and "hot traveling" in any form has come to be quite the popular estimate of a good time. The aquaplane may be drawn at a speed of 30 miles an hour, which certainly is going some, especially if the rider is able to stand erect and keep his balance. To put it briefly, it is joy-riding on the wave and he who is able to keep his balance and his footing to the end of the race certainly is very much of a winner.

It is already given out that a number of the aquatic meets for this summer have provided aquaplane races and the indications are that those meets that have not already included this event in their program will need to revise their bill of fare if they provide exactly what the public is hankering after in that line. A sport so wholesome certainly is worth cultivating.

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**MOST MODERN, SPEEDIEST, BEST.**  
Designed and Built especially for Motor Boats and Racing Craft.  
True Screw and advances closer to pitch than other types.

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**NEW DEPARTURE BALL BEARINGS**

are particularly adapted for motor boat work throughout the power plant. Made in three types: Double Row, combined radial and thrust. Single Row, for radial loads only. Radial, for radial and one direction thrust loads.

Write today for 1913 catalogue.  
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30'-6" x 8' V Stern

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Anything in the

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E.D. or Complete

Write for Estimates

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**The Star Air and Water Pumps**

Send for catalogue

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**MARINE HARDWARE**

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Send 4 cents postage for Marine Catalogue



**WATKINS' SPECIAL MOTORS**

5 H.P. Single Cylinder - 30 lbs.

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A strictly HIGH GRADE Motor that

will give CONSTANT and EFFICIENT

service. Especially adapted for

BOATS and LIGHT BOATS. Aluminum

base, copper water-jackets, steel

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**THE WATKINS MOTOR CO.**

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Why scrub off the bottom of your boat?

Why not take advantage of new ideas?

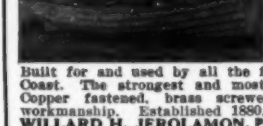
Why not be up to date? Why not buy Bridgeport Bronze

Paint and never have to haul or scrub off your boat "in

the good old summer time?"

**Bridgeport Bronze Marine Paint Co.**

Cable Address, "Laquero Bridgeport." Bridgeport, Conn.



**ORIGINAL**

**Sea Bright Dory**

20 x 5-6 with \$340.

5 H. P. Motor

Built for and used by all the fishermen on the Jersey Coast. The strongest and most seaworthy boat built. Copper fastened, brass screwed. Best material and workmanship. Established 1880.

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**HARBECK MOTORS**

Unquestionably America's Finest Marine Engines

One motor only made in four and six cylinders; for medium and heavy duty; H.P. 50 to 130, exclusively for those who want and can appreciate the best.

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**No Other Reverse Gear has This Record**

20,000 contented users of Gies Reverse Gear say that it does its work perfectly. Our guarantee backs every one. The three Gies models fit all engines from one to forty H.P. Our large output and long experience makes our attractive prices possible. Write for particulars.

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**EFFICIENT FITTINGS**

THE KIND EXPERT BOATMEN DEMAND

Whistle Outfits—Sparks, Throttle and Reverse Controls—Filters—Mufflers—Fog Bells—Obstruction Flag Poles and Aft Lights—Special Fittings, Etc.

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We have ready for shipment completed hulls, also unfinished hulls from 16 ft. to 30 ft. We furnish knock-down frames and all parts for any size motor boat. Designers and builders of Launches, Cruisers, Auxiliary Yachts and Tenders. Write for prices and descriptions.

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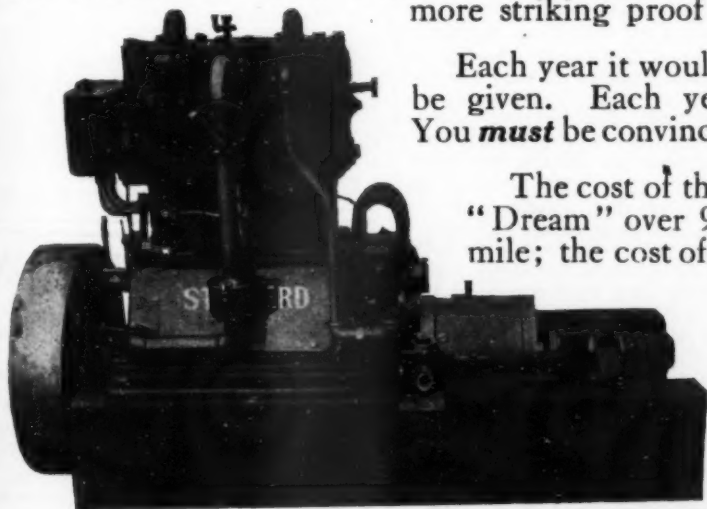
THE "DREAM" AGAINST NEW COMPETITION  
AGAIN WINS BERMUDA OCEAN RACE CUP  
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In this competitive  
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## The Standard Engine

as usual  
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The same 16 H. P. engine which drove this 40' boat to victory last year outclasses all new comers this year. ***This is RELIABILITY; this is ENDURANCE;*** could any more striking proof be had?



Each year it would seem impossible for greater proof to be given. Each year, however, greater proof is given. You ***must*** be convinced of the STANDARD Engine's value.

The cost of the STANDARD which drives the 9-ton "Dream" over 9 miles per hour; the cost of fuel per mile; the cost of oil per mile; the cost of upkeep; prove it the cheapest engine for you.

Learn what these STANDARD values will be in ***your*** boat.

Order at once for quick shipment so that you can have a STANDARD in your boat this season.

*Back of the STANDARD guarantee is the*

### Standard Motor Construction Company

178 Whiton Street

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## GALUSHA GAS PRODUCERS


Use gas made from coal, coke or charcoal in your engine. It is as cheap as gasoline at two cents a gallon.  $\frac{3}{4}$  to  $\frac{1}{12}$  the expense of power from steam or oil. We build sizes from 18 H. P. up.

A. L. GALUSHA & CO.  
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The only liquid fire extinguisher costing less than \$5.00.

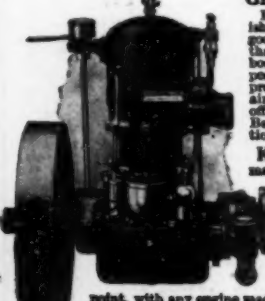
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Write for our new Accessory Catalog.  
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Positively rid motor boats and automobiles of carbon while motor is in use. No liquids. Non-explosive, harmless.  
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**"YANKEE" SILENT MUFFLER**  
The only muffler made without back pressure or noise at all speeds of the engine. Water-tight. Made of Galvanized Steel and light in weight. Made in various sizes. Over 300,000 in use. For sale in New York, by Durkee & Co., Chas. A. Miller.  
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E. J. Willis Co., John O. Higgins; Chicago, Geo. B. Carpenter, 630 Wells St.; Canada, Canadian Fairbanks Co., Montreal, Toronto and Vancouver. Write for catalogue. Manufactured only by THE "YANKEE" COMPANY, UTICA, N. Y., U. S. A.



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Built right into the Gladish Marine Engine are more good points of construction than ever before embodied in any one engine—positive lubrication by compression, pipeless radiation, air compressor for whistle, off-set cylinders, Ball Thrust Bearings and the most practical, serviceable Kerosene Burning manifold ever devised. Saves half the fuel cost. Burns either kerosene or gasoline.  
Before you buy any engine, send postal for our catalogue, prices and guarantee of complete satisfaction. Then compare the Gladish point by point, with any engine made.  
Gladish Bros. Machine Works, Chattanooga, Tenn.

### To the Yachtmen Cruising North

Let us put your yacht in commission on your cruise north for the summer season. We have the most up-to-date and best equipped plant south, and can take care of any size or style boat at short notice. We are catering to one grade work only, and that is the best, at figures lower than northern yards, for reasons of cheaper labor and rent, which shows for itself and which is guaranteed. Oil and supplies. Free water, moorings and wharves. Clear water to lay, no gas or sewerage.

Bullheads, Rapids to Wells, Marine Railway, and a Live Natchez Ship  
THE MARINE YACHT BLDG. CO., Ferry Row, foot Light St., Baltimore, Md.

## Government Requirements Important.

IN OUTFITTING a small boat for a two weeks' cruise we should first be sure that the government requirements are all complied with, in the spirit as well as to the letter. In a boat under 26 feet, a two-color lantern should be carried with proper projecting screen dividing the red rays from the green. A good method of displaying this lantern is something of a problem. A stout staff stepping into a flagpole socket on the forward deck and two guy wires to hold the lantern from turning make a good and cheap solution. The range light will hang handily on the ensign staff aft. Life preservers for each member of the crew are needful and should be stowed where available for instant use. Two chemical fire extinguishers, of a dependable make, should be in different parts of the boat, so that in case one was cut off by flames the other might be reached. A good fog horn and bell are on the list. Do not be satisfied with the cheapest obtainable. Remember that they are partly for your own protection. A brass fog horn is most durable and a heavy cast (not stamped) bronze bell will give a carrying sound of some use when at anchor in a fog. Some sort of whistle, the louder and more dependable the better, must be carried.

Ground tackle should be overhauled and must be of weight, scope and quality to hang on through the worst weather you can possibly get caught out in. For a 26-foot open boat, carry a 25-lb. kedge anchor and 30 fathoms of  $\frac{3}{8}$ -inch yacht manila and a 50-lb. kedge with 40 fathoms of  $\frac{3}{4}$ -inch yacht manila in reserve. Stockless anchors are all right except on a rocky bottom. Here the kedge has the advantage, but, of course, is not always sure to hold. Carry one anchor with rode line attached ready for instant use.

Carry in a locker pieces of spare line, canvas, wire, screws, nails, sand paper, emery cloth and engine parts. A good outfit of tools should be part of the regular equipment of every motor boat. The following are likely to be useful: 10-inch monkey wrench, 12-inch Stillson wrench, hack saw, frame and blades,  $\frac{3}{4}$ -inch cold chisel, large and small screw drivers, hammer, hatchet, saw, lineman's pliers, caulking iron, files and ratchet bit brace with bits and drills.

Take along a supply of cylinder oil, such as you have found best for your engine. It is not wise to buy it in bulk at strange gasoline stations. Have a good gasoline funnel with gauze and chamois, and insist on all fuel being poured through it when filling the tank. Have bow and stern lines for use when lying at a wharf or float.  $\frac{3}{4}$ -inch diameter and 35 feet long will be about the thing. A canvas ring buoy, 22 inches diameter, with boat's name and port lettered thereon looks shipshape, and may sometime comfort the "man overboard."

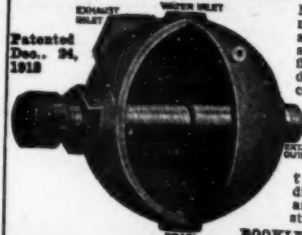
An ice box is a fine thing—almost a necessity if the weather is hot. It may be located under a seat and will insure hard butter and fresh milk. I have seen a strawberry crate used as a provision locker when cruising on an open launch. If protected against spray and rain, it is hard to improve upon. Of course, more than one crate might be required to hold the quantity desired.

All boatmen will not unite in choosing the same supplies for a cruise. Here is one schedule for two men for two weeks: 1 doz. cans Campbell's soups (assorted), 1 doz. bananas, 4 cans baked beans, 1 lb. coffee,  $\frac{1}{2}$  lb. tea, 2 lbs. granulated sugar,  $\frac{1}{2}$  lb. salt, 1 small boiled ham, 1 peck potatoes, 2 doz. eggs, 1 qt. milk, 2 lbs. butter, 1 lb. cheese, 2 lbs. breakfast bacon, 1 pkg. Cream of Wheat, 1 jar orange marmalade, 4 lbs. assorted fancy crackers, 1 lb. pilot bread, 4 loaves bread, 2 boxes French sardines, 2 cans peaches, 2 cans sliced Hawaiian pineapple,  $\frac{1}{2}$  doz. small cans Van Camp's condensed milk. Fresh milk, berries, meat, fish, etc., may be added to the menu when they are procurable in ports visited.

ALLAN O. GOULD, Portland, Me.

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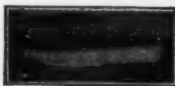
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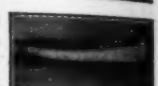
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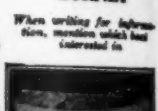


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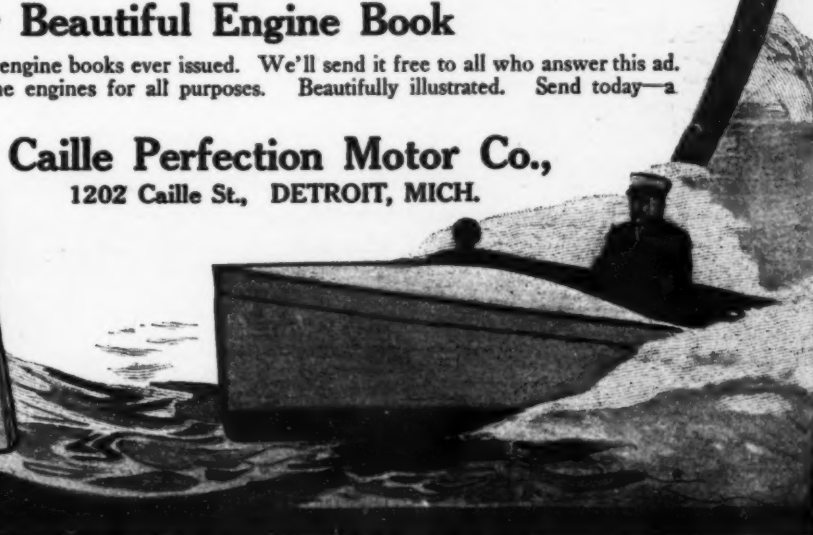
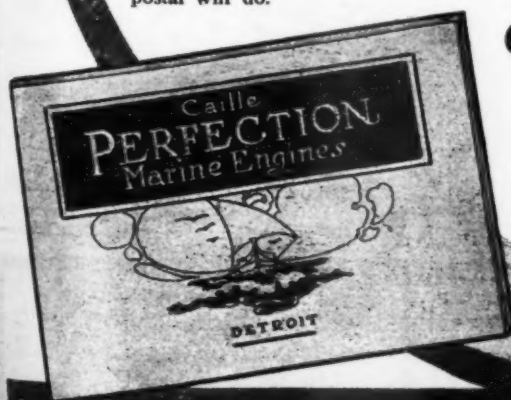
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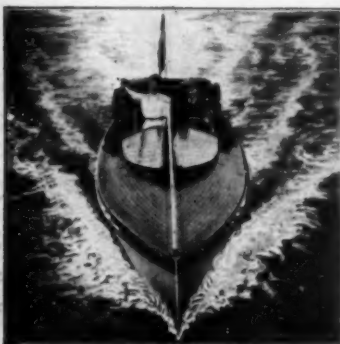
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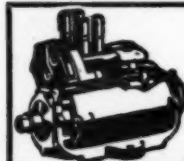
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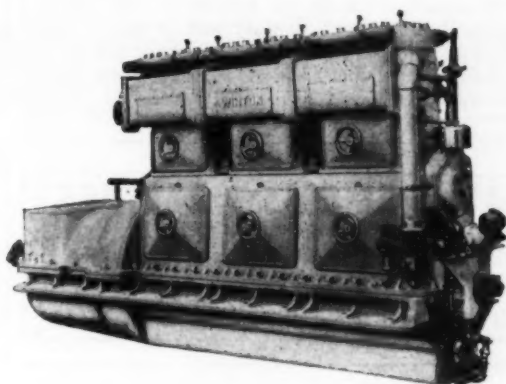
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Nothing could more happily describe Harper's Bazar as it is now being published. It is the aristocrat among fashion and society journals.

Ultra in every respect, it appeals frankly to the woman who prides herself on keeping closely in touch with the most recent developments in the fashionable world.

If you would read of society's doings, you have here the latest events; consult modes in Harper's Bazar, and you see the very newest designs; look for up-to-date models in hats, and you find them just from the ateliers of Paris.

Take the July number, for example: Mrs. George Jay Gould, Mrs. Astor, an article by Mrs. August Belmont, Robert W. Chambers collaborating with Charles Dana Gibson in a short story.

Elsie de Wolfe writes "My Own House," the Countess of Warwick, Elinor Glyn, Lady Duff-Gordon—where could you find a more notable group of personages engaged in the making of a magazine? They are the "sine qua non" in their respective fields. Beautiful paper, perfect typography, and all the resources of brush, pencil and camera go to make Harper's Bazar the magazine de luxe for women.

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115 West 40th Street  
New York City

Gentlemen:  
I should like to take a three months' subscription to Harper's Bazar at your special trial price. The twenty-five cents I enclose herewith.

My name is .....

Address .....

City .....

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115 WEST 40TH STREET, NEW YORK CITY

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Run silently, start easily. As compact and efficient as the modern automobile engine. 2 and 4 cycle, 1 to 4 cylinders, 2 to 50 H. P.

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New York: 31 E. 21st St.  
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Portland, Me: Portland Pier  
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Famous Peter Pan Models Highest Grade

Reliance Runabouts. Marine Autos  
IN STOCK. IMMEDIATE DELIVERY.

21 Footers with 4 Cylinders, 28 H. P. Motor, \$675.  
Carry Six Passengers. ASK ANY OWNER. Write for Literature. MOTORS IN STOCK.  
Reliance Continental—Best in the world.  
4 cycle, self-oiling. Model B. 28 H. P. Model J. 40 H. P.  
Get our Motor Book.  
RELIAANCE MOTOR BOAT COMPANY  
397th Street, Harlem River, New York

If you are looking for  
**QUALITY—EFFICIENCY**

and one hundred cents' worth for \$1.00, call and see the finest line of the leading two and four cycle motor engines, Ferre, Stanley, Smalley, Van Blerck, Ideal and Standard. Columbian Propellers. Joe's Reverse Gears.

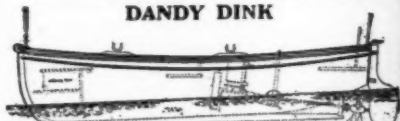
GASOLINE ENGINE EQUIPMENT CO.,  
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Hydroplanes and Cruisers  
WRITE FOR CATALOGUE

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THE BEST MODEL POWER and ROWING TENDER  
All owners DELIGHTED. Get particulars and prices of this and BOATS and ENGINES, any size and type. We sell the original Sea Bright DORY.

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18 Years' Experience. Unlimited  
Guarantee. Write for Catalog.

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## Kennebec Motor & Canoes

MOST DELIGHTFUL BOATING THERE IS  
All the pleasure of canoeing combined with the speed and convenience of motor boating. Thoroughly tested and reliable motor. Strong, light, speedy hull. If equipped with spinnaker, absolutely non-capsizeable. Write for catalog of motor, sailing and paddling canoes.  
KENNEBEC MOTOR CANOE CO.,  
96 Chapin Street Waterville, Me.

## Naval Architects

A small announcement carried in this department every month, keeps your name constantly before practically all your prospective customers and also before many possible customers whom you could reach in no other way. One average commission will pay for considerably more than a year's advertising. Directly and indirectly, such advertising will influence contracts to the amount of many times the cost of the advertising.

For rates and information, write to

**MoToR Boating**

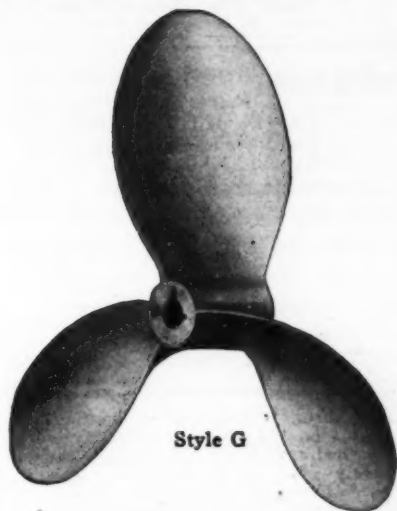
J. S. Hildreth, Adv. Mgr.

119 West 40th Street

New York



# DREAM WINS BERMUDA RACE WITH A COLUMBIAN ROCKET PROPELLER



Style G

This wheel increased "Dream's" speed by 1-2 knot an hour. The official time shows that without this increase the "Dream" would have lost the race by about 3 hours.

## *The Columbian Rocket Propeller Is the Best Wheel in the World for Cruiser Work*

This wheel and the "COLUMBIAN" Architect's Propeller, which has beaten everything else on hydroplanes—together with the style H for heavy duty work, are the three **MOST POWERFUL PROPELLERS** made anywhere in the World today



Universal Strut fitted with Die-cast, Anti-friction Bearings which can be replaced when worn. Aligns itself to any shaft angle.

## DON'T BUY

Don't Build, Don't Re-model, Don't Overhaul until you read our catalog

## "PROPELLERS IN A NUT SHELL"

It also tells you about

## COLUMBIAN RUDDERS

Outboard Rudders	Launch Rudders
Speed Boat Rudders	Universal Struts
Hydroplane Rudders	Universal Stern Struts
Combination Outboard Rudders and Universal Stern Struts	



WRITE

## COLUMBIAN BRASS FOUNDRY

LARGEST MAKERS OF PROPELLERS IN THE WORLD

218 North Main Street

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NEW YORK CITY LOCAL SALESROOM, 282 FULTON STREET. FOR CITY SALES ONLY  
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## For Safety in Your Motor Boat PARAGON REVERSE GEAR



Built in all sizes for all kinds of motors.

KNOWN as the best gear made.

Used by those who want service.

Manufactured in Taunton, Mass., by the  
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## THE COAST LINE TO MACKINAC DETROIT, CLEVELAND, BUFFALO, NIAGARA FALLS, TOLEDO, PT. HURON, GODERICH, ALPENA, ST. IGNACE

### THE CHARMS OF SUMMER SEAS

Spend your vacation on the Great Lakes, the most economical and enjoyable outing in America.

Daily service is operated between Detroit and Cleveland, Detroit and Buffalo; four trips weekly between Toledo, Detroit, Mackinac Island and way ports; daily service between Toledo, Cleveland and Put-in-Bay.

A Cleveland to Mackinac special steamer will be operated two trips weekly from June 15th to September 10th, stopping only at Detroit every trip and Goderich, Ont., every Monday up-bound, Saturday down-bound.—Special Day Trips Between Detroit and Cleveland, During July and August.—Railroad Tickets Available on Steamers.

Send 2 cent stamp for Illustrated Pamphlet and Great Lakes Map

Address: L. G. LEWIS, G. P. A., Detroit, Mich.

Philip H. McMillan, Pres. A. A. Schmitt, Vice-Pres. and Gen'l Mgr.

**Detroit & Cleveland Nav. Co.**

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## Automatic Bilge Bailer

Price \$5.00 from all dealers

**AUTOMATIC BILGE BAILER CO.**

119 St. Mary's St. - Brookline, Mass.

### THE AUTO-PNEUMATIC SWIMMING BELT

Expanded

The No Plus Life Preserver

(OORK ISN'T IN IT)

Self-Inflating on adjustment. Weighs 1 lb. Folds to 5x6 in. Waterproof. Indestructible.

Frequent drownings warn sea travelers and aquatic sportsmen to carry this practical safety appliance. Sizes: 27 to 45 inches (chest measure). Price \$3. Dealers, or by mail.

Auto-Pneumatic Swimming Belt, Inc., 309 B'way, N. Y.

## HEATLESS HYDREX QUIETS BOATS

Efficiency with Silence

Designed to new principles, scientifically applied, the HYDREX cools—CALMS all motor exhausts. Comfort for you and those aboard. Kills primary and secondary rashes. Won't over cool. Approved by Government Inspector. NO SMOKE EXHAUSTS when above or under water. Send for "PRACTICAL DETAILS" and illustrated sheets, free to all. **HYDREX SILENT EXHAUST WORKS, 30 Church St., New York**

## CEDAR LUMBER

ANY QUANTITY ANYWHERE  
AT ONCE

We pay freight anywhere in the United States

JORDAN BROS. LUMBER CO.  
NORFOLK, VA.

## Bulb Shank Mooring Anchor

Your boat can't get away. The bulb shank makes it lie flat, but raises enough to ease off sudden strains. Head won't ball up with mud. Eye for trip line makes easy to raise at end of season. Write today for our free "Mooring Book."

Fairhaven Iron Foundry Co., 8 Water St., Fairhaven, Mass.  
N. Y., C. D. Durkee & Co.; Boston, A. S. Morse Co.; Chicago, Geo. B. Carpenter & Co.

## Yachtsmen! Armstrong's Special Rubberized Rain Coats

Fresh from factory to you. Elegant goods. Splendidly made. Write for samples and catalog. Agents wanted.

E. A. ARMSTRONG, 209 W. KINZIE ST., CHICAGO

## OUR SPECIALTIES

WHISTLES HORNS  
CANOE ACCESSORIES

Write for Illustrated Booklets

WALTER COLEMAN & SONS, Providence, Rhode Island

## THE Aaron is the only automatic Bilge Pump

Pump on the market that really works automatically, also the only device that will positively rid your pump of the gasoline fumes and thus preventing explosions.

Aaron Automatic Bilge Pump Co., Inc., Howard Bldg., Providence, R. I., U. S. A.

## CROCKETT'S

Spar Composition

—the original and best known exterior marine varnish in the world. The best Interior Finish is Crockett's

No. 1 PRESERVATIVE

Send for Catalogue

Th: David B. Crockett Company Bridgeport, Conn.



## MOTSINGER

GUARANTEED AUTO-SPARKER

(Better than an overhauling battery.)

Will generate current for ignition, and electric lights, charging storage batteries, etc. Suitable for all types and sizes of gas and gasoline engines. LET US TELL YOU HOW TO MAKE YOUR OWN ELECTRICITY

MOTSINGER DEVICE MFG. CO., 737 First Ave., La Fayette, Ind.

## SANBORN

MARINE SPEEDOMETER

Shows exact speed, from which you can figure distances, tides, currents and locations. Enables you to experiment with different equipments, such as motors, ignition, carburetor adjustment, oils, greases, propellers, etc., until you have your whole boat tuned up to the highest pitch of efficiency. Can be installed any height above water line. Write today for information.

American Steam Gauge & Valve Mfg. Co., Boston, Mass.



## Wicker Chairs

that are Life Preservers. The chair illustrated in this advertisement can be fitted with a life belt. These chairs are creating a sensation with the Yachting Public. Write for catalogue and full information.

WICKER-KRAFT COMPANY  
15 So. Water Street, Newburgh, N. Y.

## METEOR MOTOR BOAT SUPPLIES

NARRAGANSETT CHEMICAL CO. PROVIDENCE, R. I.



## DRIVER-HARRIS WIRE ROPE

"TITAN" BRAND PHOSPHOR BRONZE

## METAL TILLER ROPE

Strong, Durable, Non-Corrosive

DRIVER-HARRIS WIRE COMPANY

HARRISON, N. J.

## SMALLEY MARINE GAS ENGINES

### DEALERS

### Get Your Share of Business

Don't cater to one class only.

Handle the Smalley that appeals to all.

The most complete line—4 to 250 H.P.

High speed and medium duty. Made in Iron and Aluminum for Gasolene or Kerosene.

Jump spark and Make-and-Break ignition.

You are missing the opportunity of a lifetime if you don't get our agent's offer.

### Smalley-General Co.

2007 Trumbull St., Bay City, Mich.

New York City Branch, 133 Liberty Street.



HOT days on the water have no terrors to the yachtsman who fortifies himself with something cold, and keeps cold in a Thermos. Many boating parties serve hot tea from a Thermos on afternoon sails.

## THERMOS

is cementless, radless and paperless, all absorbent material dispensed with. This new glass Thermos filler is seven times as heavy at the base as the old model. It is practically unbreakable by reason of the shock absorber at the base. The introduction of this shock absorber at the base is made possible by the New Walker-Burrows process of manufacture.

PINTS \$1.50. QUARTS \$2.50  
THERMOS-ON-THAMES at Norwich, Conn.  
NEW YORK SAN FRANCISCO TORONTO

## FOR FLYING BOATS USE JEFFERY'S MARINE GLUE

Use our Waterproof Liquid Glue, or No. 7 Black, White, or Yellow Soft Quality Glue for waterproofing the canvas covering of flying boats. It not only waterproofs and preserves the canvas, but attaches it to the wood, and with a coat of paint once a year will last as long as the boat.



For use in combination with calico or canvas between veneer in diagonal planking, and for waterproofing muslin for wing surfaces.

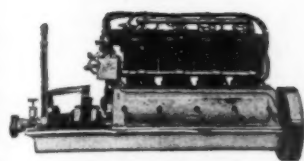
Send for samples, circulars, directions for use, etc.

L. W. FERDINAND & CO.

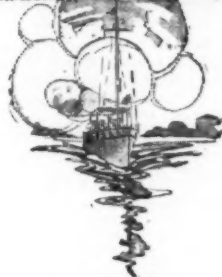
201 South St., Boston, Mass., U. S. A.

MoToR BoatinG is invaluable for the marine advertiser because it reaches marine buyers exclusively. This concentration of circulation eliminates advertising waste.





THE  
**SCRIPPS**  
MARINE POWER PLANT



## "I Consider it the Most Perfect Motor Built"

—Extract from Letter—Louis P. Moffat

**D**URING the past year we have frequently mentioned the various tests to which Scripps motors have been subjected to prove to the public their exceptional reliability.

Now we intend to publish what Scripps owners have to say about them. In another paragraph of the letter quoted above, Mr. Moffat says:

"The Model M motor has given complete satisfaction.

"I have not had to make a single adjustment since its installation.

"It is economical in the use of gasoline and oil."

Read This One!

LOUIS P. MOFFAT.

"Engine is giving excellent service and hard service too.

"Has not given us a particle of trouble. I carry parties from this city down to Delaware Bay, fishing or hunting, a week's trip at a time, so you see I have got to run on schedule time.

"There is nearly sixty miles of canal between here and Philadelphia, dropping approximately 300 feet, 22 locks in number, and allowing four miles an hour in canal.

"I must have an engine which must do its duty at 4 to 10 miles per hour, and the Scripps has done it wonderfully well."

H. A. VON NIEDA.

And this from Dominican Republic, W. I.!

"My engine runs very nicely—starts with a turn of the wheel after priming and is very satisfactory.

"I have, I think, at last got the right motor.

"This a case of quality being remembered long after price is forgotten."

G. J. SMYTH.

And this from a Government Test!

"It might be interesting for you to know that the engine sold and installed in the Government Boat has just accomplished the trip of 600 miles without a hitch.

"U. S. Engineers' Office is very enthusiastic over the performance of the boat, not only on account of the speed she makes, but also reliability of the engine as she crossed several large lakes in a raging sea.

"Engineer in charge was so well satisfied with her performance that he immediately ordered the job accepted upon his return to the city."

Send for catalogue and information about self-starters, kerosene motors, and the \$500 7-horsepower Scripps Midget, a High-grade Tender Motor.

These letters were picked at random from our files.  
We have hundreds more like them.  
You won't make a mistake if you specify Scripps.  
Made in 2, 4 and 6 cylinder sizes. Medium and Extra Heavy Duty Types.

## Scripps Motor Company

631 Lincoln Avenue, Detroit, Michigan

New York, Bowler, Holmes & Hecker Co., 141 Liberty St.  
Chicago, O. L. Cosgrove & Co., 215-219 Englewood Ave.  
Boston, Walter H. Moreton, 218 State St.  
Philadelphia, W. E. Gochenaur, 631 Arch St.

Scripps Motors are carried in stock by

Jacksonville, Fla., Gibbs Gas Engine Co., Foot of Main St.  
Seattle, Wash., S. V. B. Miller, 72 Marion St.  
San Francisco, Cal., California Gas Engine & Motor Boat Co., 76 Clementina St.

Los Angeles, Cal., Marine Engine & Supply Co., 109 E. 7th St.  
Duluth, Minn., Kelley Hardware Co., 118-120 W. Superior St.  
Toronto, Ont., Schofield-Hoolden Machine Co., 2 Carlow St.  
New Orleans, La., Arthur Davis, 130 Chartres St.



## THE WONDER ENGINE OF QUALITY

2 TO 40 H. P.  
GASOLINE OR KEROSENE.

Single Cylinder .....	2-3-5-6-10 H.P.
Double Cylinder .....	6-10-12-20 H.P.
Three Cylinder .....	9-15-30 H.P.
Four Cylinder .....	20-24-40 H.P.

For every requirement from the Canoe to the Cruiser. Buy a Wonder and be sure you are getting the best engine with the most power for the least money. That is what we offer you in our 1913 proposition. Every Wonder engine guaranteed for five years. Send to-day for our new 1913 catalog. It is a dandy, very complete, with full particulars, illustrations, data and so on. Prompt Shipments.

Send to-day. Great proposition for agents. Easy terms.

### THE WONDER MANUFACTURING CO.

260 TALLMAN STREET

SYRACUSE, N. Y., U. S. A.

**Reliance—Rochester**  
Marine Steering Gears

All models can be equipped with  
**Fore and Aft Engine Levers**

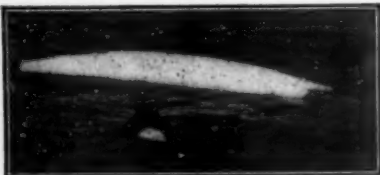
DIRECT connection to carburetor and timer. No bell cranks or knuckle joints. Eliminates all installation difficulties. **SCORED DRUM** continuous line requiring no pinning. **ROPE** guides insure the lines leading fair on the drum.

W. S. HALL CO.  
Successor to Hall-Oborn Co.  
723 Cortland Street  
Rochester, N. Y.  
CANADIAN PATENT BANKERS  
ROCHESTER CO.  
Canadian Distributors

Endorsed by the Foremost Designers and Builders.  
Vertical Cruiser Gears. Combined Steering and Reverse Controls.

Manufacturers "Scored Drum" of the  
WRITE FOR LITERATURE

### UNIVERSAL STANDARD LIFE PRESERVER IN ACTION



Were put on after boat upset. The simplest, most efficient life preserver made. Durable, light, compact. Always ready—Easy to put on.

UNIVERSAL STANDARD LIFE PRESERVER, \$2.00

UNIVERSAL SWIMMING FLOAT, \$1.25

Everybody likes them on sight. Absolutely safe.

Dealers Wanted Everywhere  
**Universal Safety Mattress Co.**  
222 E. Pratt St. Baltimore, Md.



### DAVIS DINKS

First thing the yachtsman thinks of when he needs a tender is a "Davis Dink." Row or power—8 to 14 ft. in stock. Sturdy boats—stand hard service. Conveniently arranged for passengers or supplies. 8 ft. tender weighs 65 lbs.—carries four passengers. Catalog free.

The DAVIS BOAT WORKS COMPANY  
Washington St. Sandusky, Ohio

### A MAN'S WAY



Keen, vigorous men like our method of installing engines in boats because it shows progress. The method simplifies the work and boat develops more speed. Ask for description.

The adjustable inside stuffing box shown here is only one of our 50 fittings—struts, propellers, clutches, etc.

Mechanical Devices Co., 9th St. Watervliet, N. Y.

### HALL ENGINES

We have Engineed many of the Most World Famous Ocean Cruisers.

4 CUPS OUT OF 5—THE GREAT HAVANA RACE  
2 OUT OF 3—BERMUDA RACE, 1909  
Four Cycle, 6 to 250 H. P. Heavy Duty.

HALL GAS ENGINE CO., BRIDGEBURG, PHILA., PA.

### "V" BOTTOM

RUNABOUT 21 ft. by 5 ft.

A steady, seaworthy, handsome, little craft, with a 7 H. P. 2 cylinder Erd motor, reverse gear and equipment, ready to run. \$495.00

KNOCK DOWN FRAMES

The Bayonne Launch Co. E. 28th Street Bayonne, N. J.

**TREBERT**  
GASOLINE ENGINES

Poppet Valve Type—4/40, 4/60, 6/60, 6/90, 4/75 Heavy Duty. V-Piston Valve Type—3 Cyl. 60-100 H.P.; 12 Cyl. 100-200 H.P. If you wish to reach the mile-a-minute speed, your boat should be powered with our "V"-shape Piston Valve Engine. Write today for complete catalog and price.

H. L. F. Trebert Engine Works, 495 St. Paul St., Rochester, N. Y.

3 1/2 H.P. \$39.50  
Absolutely High Grade  
Send for catalogue  
D. LONG ENGINE CO.  
83 North Ave. WEBSTER, N. Y.

### HACKER-HYDROPLANES

KITTY HAWK II, OFFICIAL RECORD, 54.48  
GUARANTEED 25, 40, 60 & 80-MILE HYDROPLANES AT ATTRACTIVE PRICES.

16, 17, 19-ft. One Design Hydroplanes furnished in Plans, Knock-downs, Complete or with guaranteed speeds of from 20 to 25 miles. Write me for prices.

JOHN L. HACKER, N. A.

313 Hibbard Ave. Detroit, Mich.

### LEARY TWIN PORT ENGINE



Has an extra or fourth port also regulated by the travel of the piston. Two carburetors are used, and unlike the one carburetor type of engine, one regulated requires no further adjusting. A great many desirable and essential features are found only on the LEARY.

One to six cylinders—5 to 30 H. P.  
Leary Gasoline Engine Co., 1555 Dewey Ave., Rochester, N. Y., U. S. A.

MOTOR BOATING'S circulation offers to advertisers the most concentrated buying power in the marine field. It is read every month by nearly one hundred and fifty thousand people who *should be* vitally interested in your product as motor boat owners, dealers, or manufacturers. Buyers of either of these classes can be reached more cheaply per thousand per month through MoToR BoatinG than by any other equally efficient medium of advertising. This economy of circulation is due to the fact that it is all of the one-hundred-per-cent kind. Every reader needs your goods and every reader can afford them or he would not be reading the foremost marine magazine. It is only for you to convince him by using space sufficient to attract his attention and to fittingly represent the quality and importance of your product.

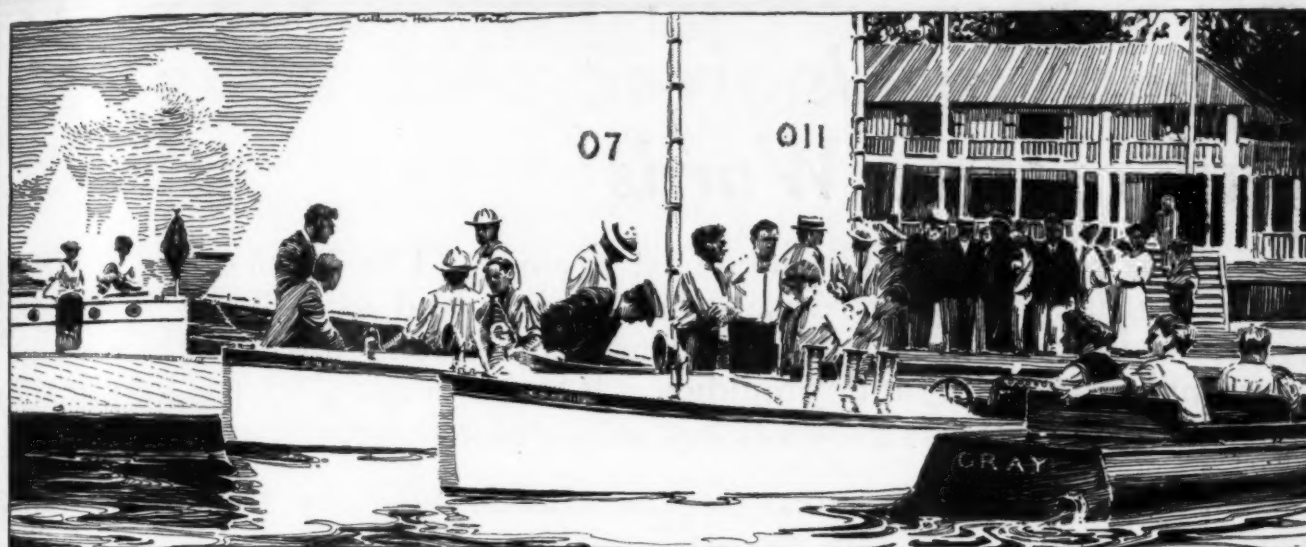
Write for advertising rates to

J. S. HILDRETH  
Adv. Mgr.

MoToR BoatinG

119 West 40th Street  
NEW YORK





## The Easy Way to Select Your Engine or Motor Boat

First, write and get our three valuable and helpful books about marine engines and complete motor boats.

Our **Big Engine Book "M"** tells you all about Gray Motors—shows you how they are made and gives you a world of valuable information about marine engines in general—their design, construction, care and operation.

Makes the **right** selection an easy matter, even for the inexperienced.

Then there is our **Boat Builder's Catalog**—the only book of its kind ever published—showing the products of the country's leading boat builders.

Practically every type of boat is illustrated and described—fishing and hunting boats, pleasure launches, canoes, hydroplanes, speedy runabouts and cruisers and prices given are for complete outfits with Gray Motors installed.

Shows you exactly where to get what you want in the easiest, quickest and most economical manner.

**A GRAY MOTOR in your boat insures absolute motor boat satisfaction. Manufactured in sizes from 3 to 36 H. P.—1, 2 and 3 cylinders and guaranteed by a responsible concern.**

**"A Book of Boats"** tells you about motor boats and Gray Motors from the owners' view-point. Contains over 200 illustrations of boats of practically every type and size, collected from all parts of the world. Gives the owners' actual experiences and shows results obtained under different conditions—a wonderful help, especially for the inexperienced motor boat purchaser.

From no other one source can this same information be obtained—it shows the easy way to select the **right** engine—the **right** boat, and be assured of getting a complete outfit that will be economical, safe and dependable.

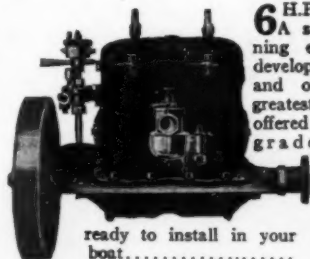
And these books are easy to get—just send in your name and address on a postal card stating you are interested in an engine or a motor boat.

**Right now**—when you will want your outfit in a hurry—this special service, together with our ability to make prompt deliveries, will be mighty important to you.



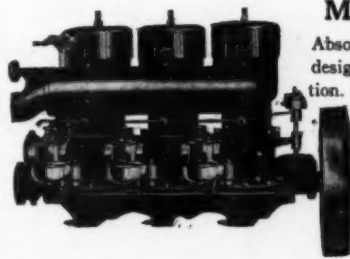
**6 H. P.** Guaranteed to develop 7 H. P. The most popular marine engine ever designed. Price with complete outfit, ready to install, **\$89.50**

**3 H. P.** A wonderful motor for all kinds of small boats, such as canoes, row boats and family launches. Complete outfit ..... **\$55**



**6 H.P., 2 cylinder.** A smooth running engine that develops 8 H.P. and one of the greatest values ever offered in a high grade 2-cylinder engine. Price of complete outfit, all **\$114**

ready to install in your boat.....



**Model "T"**

Absolutely the best in design and construction. Our quantity production makes low prices possible. Sizes 7 to 36 H.P., 1, 2 and 3 cylinders, **\$115 and up.**

## IMMEDIATE DELIVERY



We can ship any engine shown in our big catalog the same day order is received—if you are in an extra rush **wire your order.**

Gray motors are backed up with a service that is the most complete, of its kind, in the world—we have factory service stations in the principal cities and boating centers where stocks of motors are carried and where repair parts for any model can be ordered at any time, should the necessity arise.

WRITE TODAY FOR THE THREE BOOKS

**GRAY MOTOR CO. 774 GRAY MOTOR BLDG. Detroit, Mich.**



## Actions Speak Louder than Words

There is a very old and hackneyed saying---"The Proof of the Pudding is in the Eating." Let us revise it up to date and say---"The Proof of a Magazine is in the Advertising." Advertisers no longer spend their money on personal preference and prejudice. Results count and the publication that gives the best results grows fastest in popular favor.

The leading manufacturers of the marine field, by their advertising expenditures, endorse MoToR BoatinG in the most substantial way possible. It is the only marine trade paper which is steadily increasing in use and value.

Actual figures on the amount of advertising carried are the basis of this statement. The following table shows the average number of agate lines per issue carried by the principal marine publications from January 1st to May 31st, 1913, compared with the same period of 1912:

*Average Number of Agate Lines Per Issue  
January 1st to May 31st, Inclusive*

	1913		1912
MOTOR BOATING	48,132	Motor Boat . . . . .	46,740
Motor Boat . . . . .	42,797	MOTOR BOATING	43,268
Rudder . . . . .	17,048	Rudder . . . . .	18,546
Power Boating . . . . .	16,447	Pacific Motor Boat . . . . .	18,000
Pacific Motor Boat . . . . .	15,162	Power Boating . . . . .	16,481
Yachting . . . . .	12,411	Yachting . . . . .	15,771
MOTOR BOATING	GAIN 4,864 lines	or 11¼%	
Power Boating . . . . .	LOSS 34	" " ⅛%	
Rudder . . . . .	LOSS 1,498	" " 8 %	
Motor Boat . . . . .	LOSS 3,943	" " 8½%	
Pacific Motor Boat . . . . .	LOSS 2,838	" " 15½%	
Yachting . . . . .	LOSS 3,360	" " 21⅓%	

The average number of lines per issue is given as there are an unequal number of issues although an equal period of time is covered—that is—the averages of five issues of the monthlies are compared with the averages of ten issues of the semi-monthly.

## Let MoToR BoatinG Increase Your Business

Write today for advertising rates to

### MoToR

J. S. Hildreth, Adv. Mgr.

**BoatinG** 119 W. 40th St., New York



# Smack's Life Saving Appliances

These are the life preservers that cannot fail,—essentially different in design and principle from any other and thoroughly protected by letters patent which prevent successful imitation. The selection of life preservers is a serious matter—more important than any other single detail of equipping a motor boat, yacht or steamship. Investigation *now* may save your life, or those of your passengers, some time in the future.



"It fits around the neck."

## Smack's Human Life Preserver

A cork life preserver which fits around the neck and can be instantly adjusted to any person, from the smallest child to the largest adult. Emergencies don't permit the selection of a size preserver to fit.

The Human Life Preserver, by applying the buoyancy in the right place, absolutely prevents drowning, whether the wearer is conscious or unconscious. Compare this with the ordinary life belt in which the wearer's face is immediately submerged as soon as the wearer relaxes his efforts. Countless disasters tell the inefficiency of the cork life belt.

You can upset in a life boat, you can upset in a life belt, but you cannot upset in



↑ Smack's Human Life Preserver.

The Human Life Preserver is made of the best block cork covered with canvas and put together so perfectly that weather, exposure or rotting of the cover cannot affect the reliability of the Preserver. Compact for storage in quantities. Also made in round form for swimmers, bathers, life guards and small boats and known as Smack's Cork Swimming and Rescue Buoy.

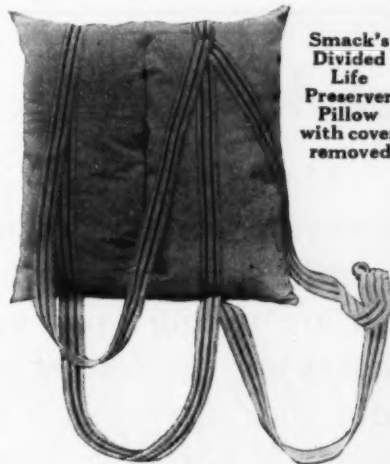
## Smack's Divided Life Preserver Pillow

A soft downy pillow which, when the cover is removed, gives an infallible divided life preserver to fit around the neck. For any size person, large or small. Makes a most comfortable boat cushion or will store in minimum space.

Smack's Life Preserver Pillow is made of the best grade of Java Kapoc—four times more buoyant than cork. This preserver is guaranteed far in excess of the U. S. Government requirements for buoyancy.

While we strongly recommend that, in all cases where it is possible, the appliance be properly adjusted according to the instructions that go with each appliance, in case of quick emergency, just pull the pillow down over your head, hold on and jump; then apply it leisurely while in the water.

Do you know of any other manufacturers of life saving appliances who ask all purchasers to try their appliances out in the water under any conditions, guaranteeing to refund not only the purchase price, but all charges if their appliances fail in any way to please the purchaser? Such is our request and our guarantee.



Smack's Divided Life Preserver Pillow with cover removed

The cut below shows three persons supported by two Smack's Life Preserver Pillows



Photos by Hull

Write today for catalogue and prices

**Human Life Preserver Co.**

**Long Branch, N. J.**



WISCONSIN MACHINERY &amp; MFG. CO., Milwaukee, Wis.

# HELP.

Gentlemen:—

## I AM TIRED OF ROWING

(Sign Here).....

MAIL  
THIS TODAY

### THE PHENOMENAL RED WING FLYING TWENTY

All Sensations of Flying with the Dangers Left Out

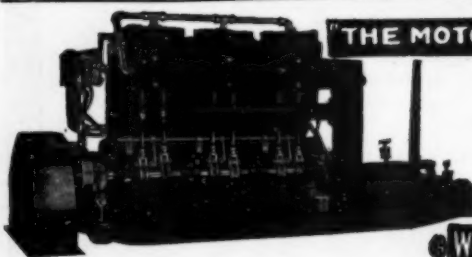


The masterpiece of modern boat science. High speed, real comfort, dash control, elegance and low price.

She's a 20-miler that makes twenty actual miles an hour. Equipped with 2 cylinder, 2 cycle Model O Red Wing high speed motor, or 4 cylinder, 4 cycle high speed Red Wing motor.

Write for catalog, prices and drawings on complete boats of all sizes and kinds and our 2 cycle and 4 cycle motors.

RED WING MOTOR COMPANY

This is Her Motor  
16-20 H.P., 2 cyl. Built in other sizes  
Red Wing, Minn.

### "THE MOTOR WITH THE BORE AND STROKE"

FOUR CYCLE WOLVERINE MARINE ENGINE

They Use Kerosene, Gasoline, Alcohol, Distillate, Producer Gas.

Have no equal for economy, durability, power, reliability and steady service.

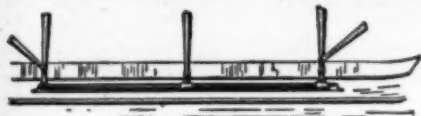
One to Three Cylinders. 5 to 100 H.P.

Write for free catalog No. 53

WOLVERINE MOTOR WORKS, BRIDGEPORT, CONN. U.S.A.



### The Kenyon Top Rides Over the Cockpit of 'Most Every Motor Boat



### THE NEW KENYON JIFFY TOP

This is one of the newest of the Kenyon creations. The top can be handled easily by one person, and is just as practical and safe as the Standard or Heavy Duty Kenyon Top. Write for our new catalog containing full information.

THE R. L. KENYON CO.,

365 Meadow Street

WAUKESHA, WIS.



## THE ORIOLE

COSTS NO MORE THAN OTHER MAKES

## MARINE ENGINE

Built in Baltimore  
Running EverywhereMore Horse Power—Less Consumption of Gasoline—Than  
Any Other Heavy-Duty Two Cycle Engine of Same H. P. Rating

5 TO 17 H. P. \$110 TO \$355

PAGE ENGINEERING CO.

Hull and Cleggett Sts., Baltimore, Md.

Send for  
our 1912  
Model

Catalog A

## Let MoToR BoatinG Increase Your Business

MoToR BoatinG is a positive sales force which you can employ at minimum expense to increase your business. You can buy as much or little as you wish but no matter what you use, you will know that you are telling your sales story to the greatest number of prospective buyers at the lowest expense. Are you getting as much advantage from your advertising as the proper use of MoToR BoatinG will give you? Right now is the height of the season.

### Send Your Copy for August Now

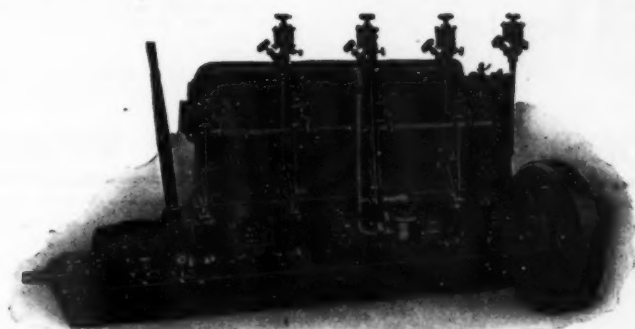
J. S. Hildreth, Adv. Mgr.

MoTor BoatinG

119 W. 40th St., New York



# "The Automatic"



THE popularity of the AUTOMATIC Four-Cycle Marine Engine is due to the fact that it has the ability to develop *continuous efficient* power.

This means not only a saving in fuel and repair bills, but safety as well—for the AUTOMATIC is an engine that can be depended upon under all conditions. If you own a motorboat you surely appreciate the importance of these points.

The AUTOMATIC is built in twenty sizes. The line starts with the single cylinder 3 H. P. Motor and ends with the 250 H. P. six cylinder Engine. The AUTOMATIC is suitable for pleasure or commercial boats of any type---except speed boats.

*Write today for the AUTOMATIC Booklet  
and Specifications of the size you require*

## THE AUTOMATIC MACHINE CO.

**BRIDGEPORT : : : : : CONNECTICUT**

Boston: 4 Long Wharf.

Baltimore: 730 E. Pratt St.

Charleston, S. C.: W. H. Pieper.

Norfolk, Va.: Wallace Bros.

and Morehead City, N. C.

Galveston, Tex.: 2105 Strand.

Mobile, Ala.: Marine Supply Co.

New Orleans, La.: 862 Tchoupitoulas St.

Jacksonville, Fla.: H. E. Ploof Machy. Co.



## Genuine Harthan Propellers, Shaft Bearings, Universal Joints, Propeller Jacks, Shaft Couplings

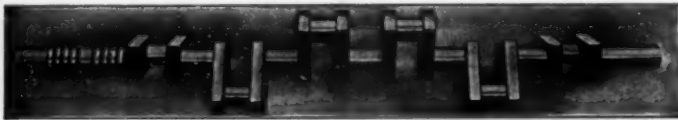
ALL FIRST-CLASS GOODS MANUFACTURED BY  
**McFARLAND FOUNDRY & MACHINE CO.,**

BOSTON  
The Lincoln-Dillaway Co.  
178 Commercial St.

NEW YORK  
Topping Brothers  
122 Chambers St.  
CANADA—Canadian Fairbanks-Morse Co., Montreal and branches.

No. 1 BREUNIG AVENUE  
TRENTON, N. J.

PHILADELPHIA  
F. Vanderherchen's Sons  
7 North Water St.



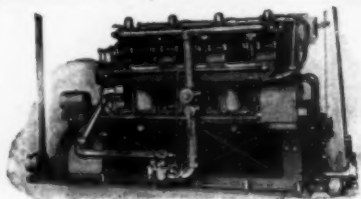
Write today for quotation of your requirements.

## FINISHED CRANK SHAFTS

Let us figure on your Crank Shafts (be it one or one thousand). We manufacture them complete in our own plant—forged from the solid billet, grinding all pins and bearings and supply the finished shaft ready to be installed in the engine.

Forgings of all kinds. Die forgings in quantities from 50 and up. Carbon and Alloy Steels Heat Treated to your own specifications. Drop Forged Cranks Finished.

**P. H. GILL & SONS, FORGE AND MACHINE WORKS, BROOKLYN, N. Y.**

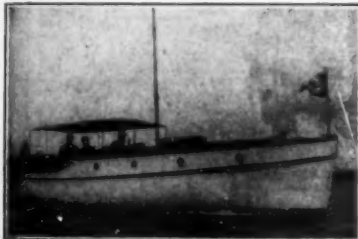


30-40 H. P. Special Engine built for U. S. Govt.

## Gasoline Yachts and Engines

**NOTED FOR RELIABILITY**  
TREGURTHA WATER TUBE BOILERS  
STEAM LAUNCHES AND ENGINES  
ELECTRIC LIGHT OUTFITS

**MURRAY & TREGURTHA CO.**  
340 WEST FIRST STREET SOUTH BOSTON, MASS.



31 ft. Milton Special

## BOATS of QUALITY

Cruisers, Speed Boats, Hydroplanes

**MILTON BOAT WORKS, Rye, N. Y.**

Designers and Builders

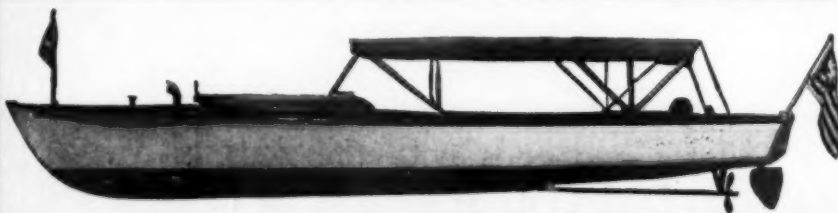
STORAGE

REPAIRS

SUPPLIES



Yacht Tenders to Order



Why the President's Launch is Equipped with the  
McClellan's Safety Auto Boat Top:

So distinct, so different is the McClellan Safety  
Auto Boat Top, that

Uncle Sam Has Granted Us a PATENT

That is why we are the only Top Makers in the United States  
making the Safety Auto Boat Top, or one man control.

Our 1913 Catalog both tells and shows the  
McClellan Superior Points

**CHAS. P. McCLELLAN** Davol Street,  
Fall River, Mass.

## Help Your Dealers by Advertising

Up-to-date manufacturers do not consider their product sold when it has only reached the dealer. They follow it through until it is in the hands of the consumer.

MoToR BoatinG is the most tangible dealer aid known. All the best dealers read it regularly, and they see what is being done for them in the way of advertising by the manufacturers they represent. Their appreciation is shown by increased loyalty for the manufacturer and enthusiasm for the product.

J. S. Hildreth  
Adv. Mgr.

# MoToR BOATING

119 W. 40th St.  
New York



# The Matchless EAGLE at a Matchless Price

## Why Should You Worry?

### Our Service Means Much To You Personally

When we agree to give you the unrestricted benefit of our fourteen years of engine building, can you realize how restful and comfortable it will be for you to sell a Standard line of Engines, with an established reputation, and supplied by a big, live organization?

Some day (here's hoping it will be soon) you are going to want the agency for "Eagle" Engines. When the time arrives, turn your searchlight this way, and remember that the Trade Mark "Eagle" stands for quality of workmanship, excellence of design, and complete satisfaction to all.

There are business reasons for selling "Eagle" Engines. They are attractive in price, novel in design, built as good as money and the best paid mechanics can build them, the line is the most extensive two-cycle line offered in any country, they are sold by the best class of distributors in all parts of the world, who get Engines when they want them, and once an "Eagle" agent, they never change.

There's a business reason why the best distributors are "Eagle" enthusiasts. It's a business getting and rapid selling line, and you cannot afford to overlook the opportunity.

## The Standard Co. Torrington, Conn.

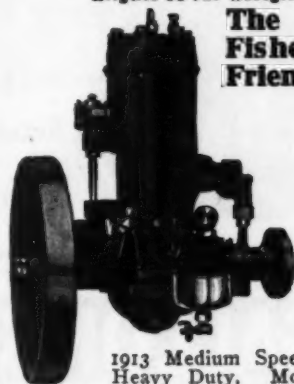
### DISTRIBUTORS OF "EAGLE" MARINE ENGINES

BALTIMORE, MD.—Unger & Mahon, 119 East York St.  
BOSTON, MASS.—Arthur P. Homer, 154 State St.  
BRUNSWICK, GA.—Wright & Gowen, Bay & Oglethorpe Sts.  
CHICAGO, ILL.—Robert H. Richter, 180 N. Market St.  
CINCINNATI, O.—Motor Boat & Auto Supply Co., 311 Main St.  
CLEVELAND, O.—Motor Boat & Supply Co., 1411 West 9th St.  
EASTPORT, ME.—Cecil P. Chaffee.  
GALVESTON, TEX.—Barden Elec. & Mach. Co.  
GRAFTON, ILL.—Rippley Steel Boat Co.  
GRAND RAPIDS, MICH.—G. R. Marine Equipment Co., 1171 Monroe Ave., N. W.  
HOUSTON, TEX.—Barden Elec. & Mach. Co., 111 Main St.  
JACKSONVILLE, FLA.—National Boat & Eng. Co., Ft. Main St.  
LOS ANGELES, CAL.—Joe Fellows Yacht & Launch Co., 232 E. 7th St.  
MOBILE, ALA.—Marine Supply Co., 14 St. Michael St.  
NEW ORLEANS, LA.—Stauffer, Eshleman & Co., Ltd., 511 Canal St.  
NEW YORK CITY—Bruns, Kimball & Co., 132 Liberty St.  
PHILADELPHIA, PA.—W. E. Gochenaur, 631 Arch St.

PORTLAND, ME.—A. P. Homer (branch), 180 Commercial St.  
SAN DIEGO, CAL.—Bay Region Machine Wks., 240 D St.  
SAVANNAH, GA.—Osborne Marlow Co., 129 Congress St.  
SEATTLE, WASH.—Campbell Hardware Co., Colemans Dock.  
SAN FRANCISCO, CAL.—R. M. Sutherland, 1028 Geary St.  
SIOUX CITY, IOWA—Central Machine Wks., 613 Third St.  
ST. LOUIS, MO.—G. C. Marsh, 6800 So. Levee St.  
STAMFORD, CONN.—Power Equipment Co., Fleming's Dock.  
TACOMA, WASH.—Nickerson, McFarland Machine Co.  
WILMINGTON, CAL.—Joe Fellows Yacht & Launch Co.  
CENTRAL CHEBOGUE, N. S.—Geo. R. Beveridge.  
MONTREAL, CAN.—Shea Sales Co., 296 St. James St.  
NEW GLASGOW, N. S.—Maritime Packers, Ltd.  
ST. PIERRE—Miquelon, Robinson Export Co.  
ST. JOHNS, N. F.—Reid Newfoundland Co.  
ST. JOHNS, N. B.—C. T. Merritt Co., cor. Nelson St. and No. Wharf.  
TIGNISH, P. E. I.—J. H. Myrick & Co.  
TORONTO, CAN.—The Canadian Beaver Co., 1015 Eastern Ave.  
WESTPORT, N. S.—S. T. Payson.

The most simple and efficient Two-Cycle Engine so far designed

The Fisherman's Friend



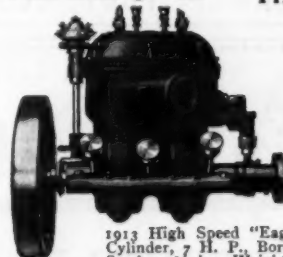
1913 Medium Speed and Heavy Duty, Model R.  
Delivers 4 H.P. at 400 R.P.M.  
Delivers 6 H.P. at 600 R.P.M.

Bore, 4 1/2"; Stroke, 5"; Weight, 249 lbs.  
With either Make and Break or Jump Spark type of ignition.

#### Completely Equipped

With new 1913 make and break sparking device, or "Black Eagle" spark plug and roller contact timer. "Excelsior" float feed carburetor as regular equipment with option of Schebler carburetor; bronze plunger pump with self-contained check valves, priming cups, drain cocks, and grease cups, ball thrust bearings, flange coupling. Eagle water cooled exhaust silencer, wrenches, screw driver, can of cylinder oil, can of grease, two oil cans, instruction book, extra set of sparking device parts on engines with make and break ignition.

Price \$90



1913 High Speed "Eagle," Two Cylinder, 7 H. P., Bore 3 1/2 in., Stroke 3 1/4 in., Weight 136 lbs.

#### Completely Equipped

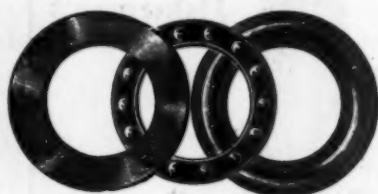
with Excelsior float-feed marine carburetor, with option of Schebler carburetor, "Black Eagle" spark plugs, roller contact timer, bronze plunger pump with self-contained check valves, priming cup, grease cups, ball thrust bearings, flange coupling, Eagle water-cooled exhaust silencer, wrenches, screw driver, can of cylinder oil, can of grease, two oil cans, lag screws and instruction book.

Price \$95

Mr. Manufacturer:—Are you one of the few not using

## STAR THRUST BALL BEARINGS

in your Motors? If you are, you are not receiving the best results. Send us your Blue Prints.



The Star Ball  
Retainer Company

Lancaster, Pa.

## 20 GALLONS A MINUTE

Twenty gallons at 85 R.P.M. —that is the capacity of the largest size

### TRIMOUNT ROTARY HAND BILGE PUMP

This is the most practical bilge pump ever designed for any size of boat. It is even better than a power pump because it is always ready for many uses other than bilging. Every possible use of a pump—filling tubs, washing decks, etc., etc., is play with a Trimount. It has suction lift of 25 ft. and will give 30 lbs pressure with nozzle.

The Trimount pump is made of bronze; it wears forever. It is the easiest operating pump of any type made. The whole device is so small it takes practically no room in the boat.

No. 0	0 Gallons Capacity at 85 R.P.M.	\$12.00
No. 1	10 " " " 85 R.P.M.	\$20.00
No. 2	20 " " " 85 R.P.M.	\$30.00

We will return your money after 30 days' trial if you want it.

Also manufacturers of the Trimount Power Whistle Outfit.

New York Office: 393 E. Hudson Terminal Bldg.

PAUL D. LE VENESS, Mgr.

Trimount Rotary Power Co., 152 Pearl St. Boston, Mass.

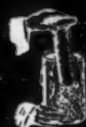


## The Famous Anti-Fouling Paint

It is "Worth its Weight in Gold." Think of the luxury of always having a clean bottom after painting only ONCE a season with HENKE MARINE BRONZE.

Write for our Booklet and Color Card

Henke Manufacturing Co.  
135 Bowery NEW YORK



Put up to this and you will save money by keeping the paint always fresh.

## CURTISS MOTOR-BOAT WATER CLOSET

We built this Motor-Boat Water Closet after carefully considering the designs and requirements of small cruising boats and the demand for a low-priced fixture, suitable for



\$20

above or below water-line use.

When installed above the water line it only requires a sea-valve on suction pipe. Its simplicity and ease of installation enable anyone to install it.

Manufactured Solely by

THE J. H. CURTISS CO., 2 South Street, N. Y.

# Speedway

## TRIPLE SCREW GASOLENE YACHT



### "WHIRLWIND"

A Motor Yacht with speed and comfort combined. Launches and Yachts, small or large, wood or steel. Speedway Gasolene Engines

Gas Engine & Power Co. and Charles L. Seabury & Co.  
Consolidated

Morris Heights

Catalogue on Request

New York City



# Motor Boat Owners,— These men are all adopting Wolf's Head Oil

We use and recommend Wolf's Head Oil to all owners of our boats.

GAS ENGINE & POWER CO., and  
CHAS. L. SEABURY & CO., Cons.  
New York City

We use Wolf's Head Oil in our "Elco" motor boats.

THE ELECTRIC LAUNCH CO.,  
Bayonne, N. J.

In Wolf's Head Oil we have at last secured an oil which we can recommend to our customers.

BLOUNT & LOVELL, Boston, Mass.

We recommend Wolf's Head Oil to all owners and users of the Detroit Engines.

DETROIT ENGINE WORKS, Detroit, Mich.

We use and recommend Wolf's Head Oil for our "Capital" motors.

FIFIELD BROTHERS, Augusta, Maine

We recommend the use of Wolf's Head Oil to our customers.

THE ATLANTIC CO., Marine Motors,  
Amesbury, Mass.

We use Wolf's Head Oil altogether on our high speed motors.

VAN BLERCK MOTOR CO., Detroit, Mich.

Other Famous Motor and Engine Manufacturers who use or recommend Wolf's Head Oil are:

ERD MOTOR CO.  
Saginaw, Mich.

MORRISTOWN BOAT AND ENGINE WORKS  
Morristown, New York

SCRIPPS MOTOR CO.  
Detroit, Mich.

THE FRISBIE MOTOR CO.  
Middletown, Conn.

THE MARINE CONSTRUCTION CO.  
Toronto, Canada

Van Blerck Motor Co.

Makers of engines in the "Kitty Hawk II", "Gretchen II", "Reliance IV", "Disturber III", etc.

Gas Engine & Power Co. and  
Chas. L. Seabury & Co., Cons.  
One of the largest and most famous manufacturers of power boats and yachts.

Electric Launch Co.

Makers of the famous "ELCO" motor boats.

Crane Brothers.

Makers of "Dixie IV" engine.



Reliance Motor Boat Co.

Makers of the celebrated "PETER PANS."

Weckler Boat Co.

Makers of WECKLER-FAUBER Hydroplanes.

Scripps Motor Co.

Builders of motor used in the celebrated "Detroit."

The Loew Mfg. Co.

Makers of the famous LOEW-VICTOR motors.

Atlantic Boat Co.

Fifield Brothers.

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**Insist Upon Wolf's Head in the Original Sealed Cans**

WOLVERINE LUBRICANTS CO., MAIN OFFICE, 78 BROAD STREET, NEW YORK

Plants: New York City and Franklin, Penna.

**Also Manufacturers of the Famous Packard Oils**

Branches: CHICAGO, PHILADELPHIA, WASHINGTON, BOSTON, UTICA, BUFFALO, PITTSBURGH

## Territorial Agents:

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CANADIAN FAIRBANKS-MORSE CO., Limited	- - - - -	Montreal
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ARTHUR STORZ AUTO SUPPLY CO.	- - - - -	Omaha, Neb.

THE OZBURN AUTO SUPPLY CO.	- - - - -	Memphis, Tenn.
EVANS OIL WORKS	- - - - -	Cincinnati, O.
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ELYEA-AUSTELL CO.,	- - - - -	Atlanta, Ga.

# Insist Upon Wolf's Head Oil—

# Just As the Motor Manufacturers Do



## Boat Owners and Manufacturers—Investigate!

### KAINER Ropeless Self-Locking Steering Gears



The only Steering Gear that can guarantee no lost motion or backlash—no rope trouble—self-locking—rustless—nothing to get out of order—lightens labor and operates with an easy, smooth, positive and noiseless action.

Prospective Owners and N. A., insist upon installing the KAINER as it COSTS LESS than the old-fashioned kind. When you purchase a KAINER you have no EXTRAS such as Cable—Quadrant—Tiller line blocks—Fair leaders—Turnbuckles—ETC. Will be used on all advanced models for 1914.

Write today for further particulars

KAINER MFG. CO., 2626 Drake Avenue, Chicago



## THE JOHNSON MARINE REVERSE GEAR

IN A NEW TYPE FOR

COMPACT  
AND NEAT

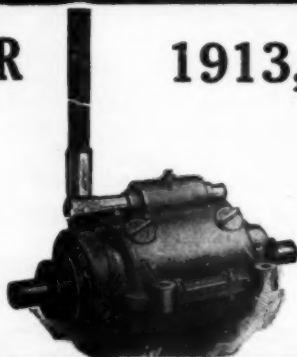
ENCASED  
BUT ACCESSIBLE  
TELLS THE STORY

1913, FROM 1 TO 40 H. P.

SILENT AND  
POWERFUL

JOHNSON AND  
QUALITY

Guaranteed for ONE YEAR



THE CARLYLE JOHNSON MACHINE CO. MANCHESTER CONN

## PUT THE POWER OF NIAGARA

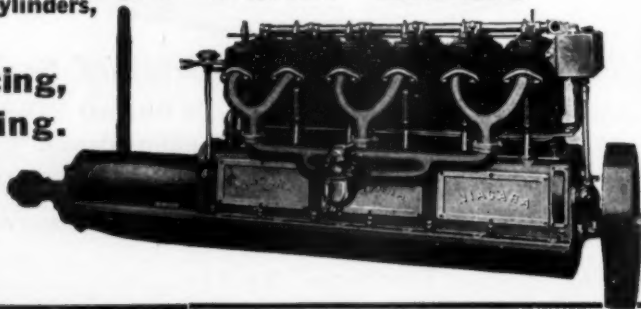
In Your Boat

Four Cycle, in 2, 4 and 6 Cylinders,  
5 to 100 H. P.

For Cruising, Racing,  
Fishing, Freighting.

75% of Niagara Sales due to  
Satisfactory Service.

Niagara Motors will Operate  
on Kerosene or Gasoline.



Highest Quality at  
Moderate Price.

In Service Nearly Ten Years  
and Not a Dissatisfied  
Customer.

We can save you money and much  
annoyance. Get Catalog.

Niagara Motors & Mfg. Co., Inc.  
194-204 Niagara Boulevard - Dunkirk, N. Y.

### The Real Test of Advertising Value

The leading manufacturers of the marine field, by their advertising expenditures, endorse MoToR BoatinG in the most substantial way possible. It is the only marine trade paper which is steadily increasing in use and value. The following table shows the average number of agate lines per issue carried by the principal marine publications from January 1st to May 31st, 1913, compared with the same period of 1912:

Average Number of Agate Lines Per Issue, January 1st to May 31st, Inclusive			
1913	1912	Gains and Losses	
MOTOR BOATING 48,132	Motor Boat . . . 46,740	MOTOR BOATING GAIN 4,864 lines or	11 1/4%
Motor Boat . . . 42,797	MOTOR BOATING 43,268	Power Boating . . . LOSS 34 " "	1/5%
Rudder . . . 17,048	Rudder . . . 18,546	Rudder . . . . . LOSS 1,498 " "	8%
Power Boating . . . 16,447	Pacific Motor Boat . 18,000	Motor Boat . . . . . LOSS 3,943 " "	82 1/5%
Pacific Motor Boat . 15,162	Power Boating . . . 16,481	Pacific Motor Boat LOSS 2,838 " "	154 1/5%
Yachting . . . . . 12,411	Yachting . . . . . 15,771	Yachting . . . . . LOSS 3,360 " "	21 1/5%

The average number of lines per issue are given as there are an unequal number of issues, although an equal period of time is covered—that is—the averages of five issues of the monthlies are compared with the average of ten issues of the semi-monthly.

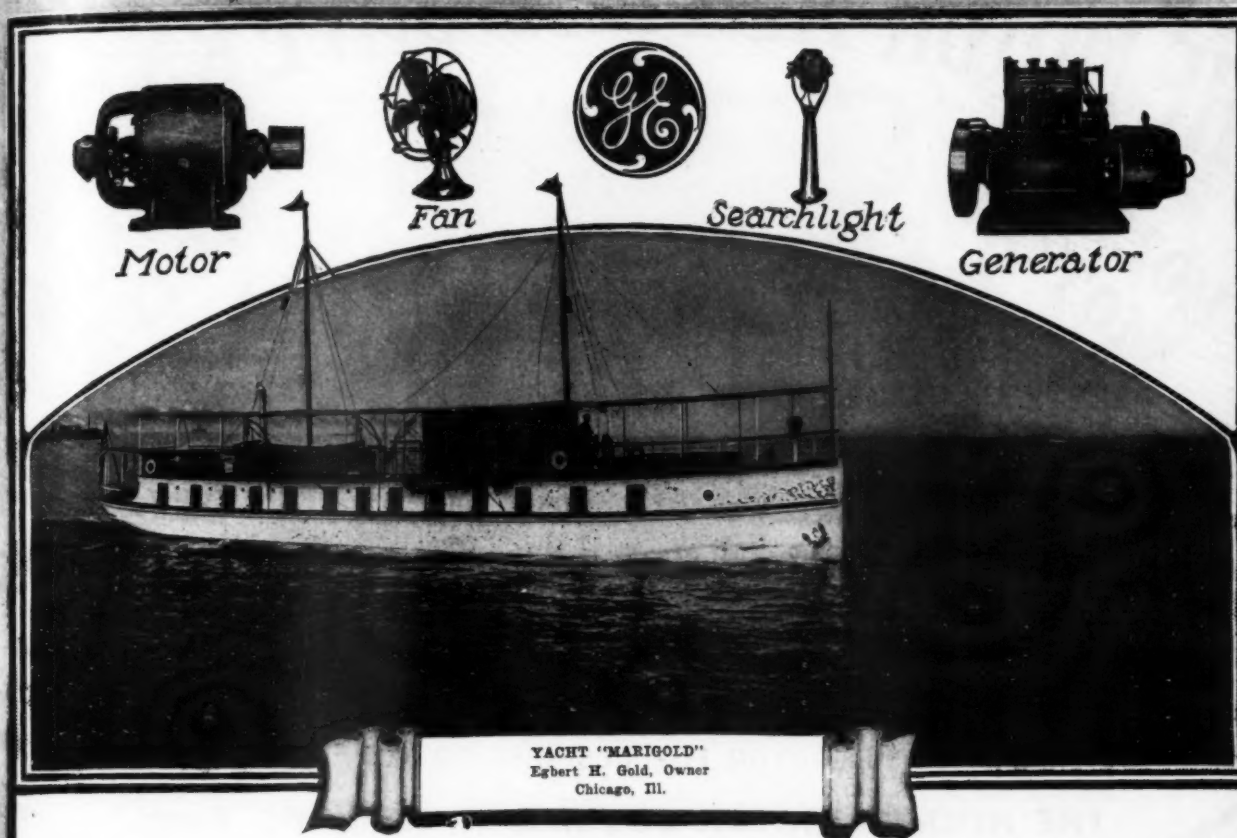
Write for advertising rates to

J. S. Hildreth, Adv. Mgr.

MoToR BoatinG

119 West 40th St., New York





The "Marigold" is equipped with one 5 KW G-E Gasolene Electric Generator, one CQ motor for pumping service, a G-E 9-in. marine searchlight, and G-E fans, lamps, etc.

## Electric Service on Board Ship

Brilliant illumination, electric heating and cooking devices, electric signals, searchlights and power devices produce greater comfort and safety on board ship.

**Edison Mazda Lamps**, in all sizes are especially adapted for lighting any part of the boat.

**G-E Electric Fans** and electric stateroom heaters provide comforts.

**The G-E Marine Searchlight** increases the scenic advantages as well as the safety at night.

**Electric Cooking and Heating Devices** of all kinds can be operated at a cost incomparable with the convenience and simplicity.

**Power Motors** for the windlass, pumps, etc., can be located conveniently and operated by the turn of a switch.

**The Source of Power** most economical and convenient for yachts and motor boats is the G-E Gasolene Engine Generator — a thoroughly reliable direct connected unit which operates successfully with minimum attention.

For vessels having steam, the G-E steam engine generator or turbine may be used.

*Bulletin No. 4926 explains and illustrates the applications of electricity in Marine Service. Furnished on request.*

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**Largest Electrical Manufacturer in the World**  
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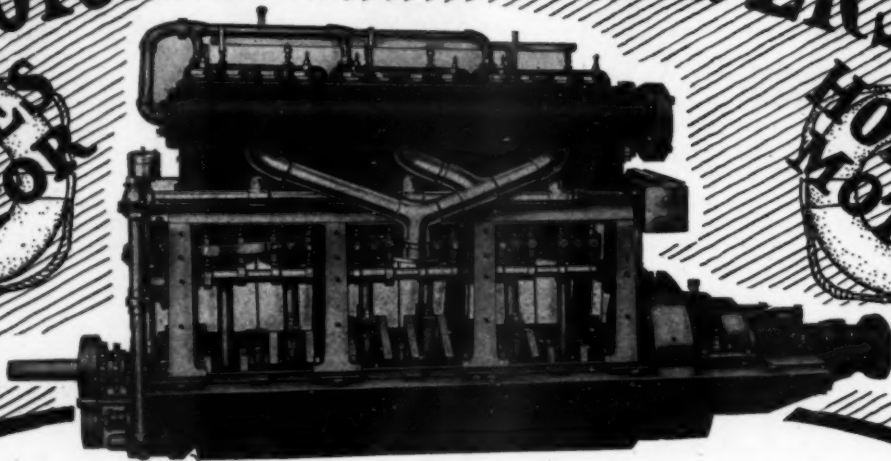
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For Texas, Oklahoma and Arizona business refer to Southwest General Electric Company (formerly Hobson Electric Co.)—Dallas, El Paso, Houston and Oklahoma City. For Canadian business refer to Canadian General Electric Co., Ltd., Toronto, Ont.

3949

# THE MOTOR THAT LIFE SAVERS USE



THERE ARE NOW OVER SIXTY POWER LIFE BOATS IN THE  
U. S. S. LIFE SAVING SERVICE EQUIPPED WITH HOLMES MOTORS

THIS SERVICE DEMANDS AN ABSOLUTELY DEPENDABLE MOTOR

THE ACCESSIBILITY OF ALL ITS PARTS, ITS LONG STROKE, ITS ECONOMY,  
MAKE IT THE MOTOR FOR BUSINESS OR FOR PLEASURE

**THE HOLMES MOTOR CO., Inc., West Mystic, Conn.**

SIZES FROM 25 H. P. TO 80 H. P.

PAID FOR ITSELF. My Planhard has more than paid for itself. G. A. Schmidt, Lawrence, Mass.

## Gallon Less Per Hour

The Gray & Prior Machine Co., Portland Branch—Gentlemen: I used one of your Planhard Carburetors on the 20 H. P. model X, Hartford motor in my semi-speed boat, "Hartford III," during the season of 1912. My boat is well equipped to make tests, as I use a tachometer.  
I get better control with a Planhard, and use practically one gallon of gasoline less per hour than when I used one of the most popular carburetors in use to-day.  
Portland, Me., January 13, 1913.

Very truly yours, A. N. SMITH.

## 4300 Miles Without a Miss on Dream

Overbrook, Pa., Nov. 23, 1912—Gentlemen: I used a Planhard on my yacht "Dream" this Summer. I traveled over 4,300 miles, and never had a moment's trouble. I won the races to and from Bermuda. My engine behaved just the same as in ordinary cruising. I consider your carburetor the finest that I ever tried.

Very truly yours, C. L. LAGEN.

## "Best Carburetor on Market—Satisfactory Where Others Failed"

SMITH'S MACHINE SHOP, Auto and Marine Repairing, Atlantic City, N. J., March 10, 1913.  
Dear Sirs:—I have installed several of your carburetors this winter, and consider them the best carburetor on the market, as they have proved perfectly satisfactory where other prominent makes failed to do the work. Enclosed find check.

Yours very truly,

H. L. SMITH.

## Gives 3 3/4 More Miles to Fast Boat

A Planhard was put on the Frisbie motor in the 19-foot, 3,000-pound Delphia II, in place of a prominent make of carburetor. The Planhard increased her motor speed 230 R.P.M., and Delphia II's speed from 27 to 30 3/4 miles per hour.

## Much More Power

Bath Marine Construction Co.—"The gasoline consumption at normal power was better than others, and it would develop much more power when pushed." H. D. BACON, Pres.  
Fifty Miles Without a Miss "Fifty miles without a miss."—Geo. E. GOSVARTON, Crescent, Mich.  
"Some Carburetor" "To use the vernacular, 'some carburetor.'"—W. R. FLEMING, 3311 Broadway, N. Y.

## Emerson III

made a mile in 1 minute 8 seconds over the Washington Government course with Planhard.  
"Has them all beaten to a frazzle."—A. G. LINDEN, Cleveland, Ohio.

## "Loew-Victor" Engines

Cleveland, Ohio, Sept. 3, 1912.  
Gentlemen:—We will continue to use your carburetor for 1913. It has given us good service during the past year, as

has been evidenced by the satisfaction of our customers.

THE LOEW MFG. CO.

## Saves 3 Gallons a Day

on single cylinder Reo truck owned by Puget Sound Iron and Steel Works of this city.—NICKERSON-McFARLANE MACHINERY CO., Tacoma, Wash.

## Old Glory II

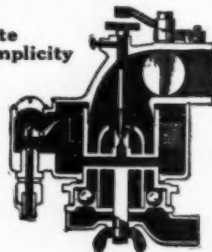
had a Planhard on her Loew-Victor on her famous 2,000-mile trip to Nova Scotia and back. Alfred S., never beaten, had a Planhard on her Metropolitan when she won the races: Cornfield Light, Rockland Light, Poughkeepsie, National Carnival and National Carnival Long Distance.

Alfred S. and Valiant II took all prizes with Planhard, on Metropolitan motors.

Mercury Motors such as in the Peter Pans and Gunfires, are all going out now equipped with Planhard.

Watertown Motors all being equipped with Planhard.

Note  
Simplicity



## Planhards Save Gas

Made for 2 and 4 cycle motors either low or high speed

## 5 Gallons—10 Hours

Our 4x5 Latimac motor in a commercial fishing boat averages less than 5 gallons per day of 10 hours—on low grade fuel at that.—McDowell-Latimer Co., Mystic, Conn.

## DISTRIBUTORS:

New England Distributors: Elmer-Leak Co., 1074 Boylston St., Boston.  
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Planhard Mfg. Co., 1788 Broadway, N. Y.  
Gentlemen:—Send me at once a copy of your chart and book concerning Planhard.

Name .....  
Address .....  
City ..... State .....  
My engine is ..... Carburetor size .....  
(Flanged, threaded, horizontal or vertical.)

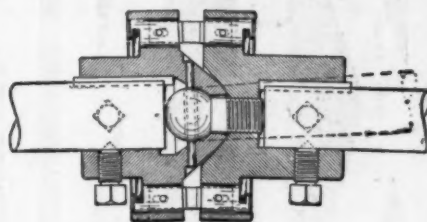


## The Dream <sup>is Equipped with a</sup> Francke Flexible Coupling

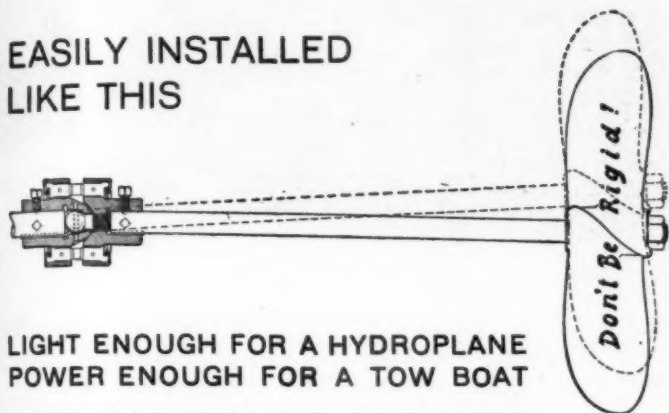


LIKE  
THIS

**YOU NEED ONE  
ON YOUR BOAT**



EASILY INSTALLED  
LIKE THIS



LIGHT ENOUGH FOR A HYDROPLANE  
POWER ENOUGH FOR A TOW BOAT  
PREVENTS BINDING OF SHAFTS  
PREVENTS LEAKY STUFFING BOXES  
KEEPS BEARINGS COOL  
MAKES MISALIGNMENT HARMLESS  
NO EXTRA THRUST BEARING

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FOR  
PRICES  
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**ANY** SIZE  
POWER  
SPEED

SIMPLE EFFECTIVE  
DURABLE INEXPENSIVE  
YOUR SIZE IN STOCK

SEND SIZE OF YOUR SHAFT, HORSE  
POWER AND REVOLUTIONS PER MINUTE  
IN ORDERING.

AT YOUR DEALERS OR ADDRESS

**SMITH-SERRELL CO., INC.**

GENERAL SALES AGENT FOR

**THE FRANCKE CO.**

WEST STREET BLDG., NEW YORK

## L-A Motors Direct from Factory to You

Sold on their Merits

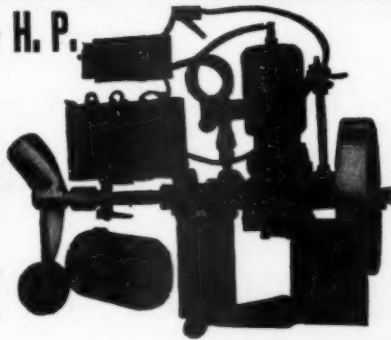
**Complete 1½ H. P.**

as shown, includ-  
ing ignition sys-  
tem, shaft and  
propeller.

**\$36.25**

**Freight Paid**

to any point east  
of the Rockies.  
West of Rockies,  
\$39.75.



**You Save the Dealer's  
Profit on L-A Motors**

It won't cost you as much as you thought to enjoy the pleasure of motor boating this summer. The old, reliable, "keep-going" Lockwood-Ash motors are sold direct from factory to you at a big saving. No dealers' profits to pay.

**Immediate Delivery**

Six models, all guaranteed for one year, and sold on 30 days' trial. No strings to this offer, no freight to pay. Just send for any of our complete outfits, and if it doesn't delight you, send it back at our expense.

The 1½ H. P. motor and complete outfit shown in illustration, \$36.25—a clear saving of at least \$13.75. Post yourself on motor boating and the safest, cheapest way to buy by writing today for our 1913 catalog. It's soon time to start—get busy.

**LOCKWOOD-ASH MOTOR CO., 302 Horton St., Jackson, Mich.**

**A 30 day Trial-A Years Guarantee**

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

# KENNEBEC

## GASOLINE ENGINES



If you are one who demands full service and reliability from a marine engine, you cannot be better satisfied than by getting a Kennebec. This is an engine which will give you perfect satisfaction for years to come. It will run day after day, year in and year out, with the greatest economy and the least trouble, and you can risk your life on it if necessary, because it won't fail you.

The Kennebec Engine gives thirty to forty per cent. more horse power than its rating. We allow them ample bore and stroke and rate them honestly at moderate speeds, because an engine designed for hard continuous service like the Kennebec must run at moderate speed if it is to have durability and give permanent satisfaction. We build power into these motors and it has got to come out.

The Kennebec is sturdy and reliable enough for the fisherman who must use it every day, and handsome enough for the finest pleasure boats. Every engine user wants Durability, Economy and Easy Accessibility no matter what type of service he requires. Ask any fisherman what he thinks of the Kennebec. If he has ever seen one working, we know what his answer will be.

14 MODELS. 2 to 16 H. P. 1 to 3 CYLINDERS. TWO CYCLE.

*Write today for Catalog*

**Torrey Roller Bushing Works, Bath, Maine, U. S. A.**

## FOR SALE

## YACHT NARMADA



91 feet overall, 15 feet 7 in. beam; draft 4 ft. 8 in., powered with two 6 cylinder, 7½ x 9 Heavy Duty Scripps Power Plants. New in 1912.

Built in 1910, planked with oak. Especially sturdy construction. Trimmings mahogany. Owner's state room in white mahogany. Carries crew of four. Sleeping accommodations for eight guests. Very roomy.

Fully found, electric lights furnished by Scripps Electric Combination Gasoline Electric Set. Electric searchlight.

Complete galley.  
Player piano.

Equipped for salt water cruise.

Fine sea boat.

Carries two boats—tender equipped with 4 horsepower motor and dingey.

Lavatories in all state rooms — bath. Hot and cold water. Boat now in commission in Detroit—may be seen at any time. Photographs, other details and prices upon application. This boat received a perfect score in the 1912 Great Lakes Cruise.

**Apply — WM. E. SCRIPPS, Owner, 631 Lincoln Avenue, Detroit, Michigan**





## You Cannot Always Step Ashore

When you are miles from shore and your motor boat catches fire, your one chance of safety lies in the prompt use of a

# Pyrene

TRADE MARK

### Fire Extinguisher

*Approved by the United States Steamboat Inspection Service*

WRITE FOR ILLUSTRATED BOOKLET

**PYRENE MANUFACTURING COMPANY**  
1358 BROADWAY NEW YORK



## Lighting Outfit & Ignition Supply

### The Lebby System

### for Ignition & Lighting

Has convinced Charleston boat owners of its merits and is to-day being used on 90 per cent of the yachts and boats of these waters equipped with electric lighting or storage battery ignition outfits.

The names of a few of these boats together with those of the owners are given below:

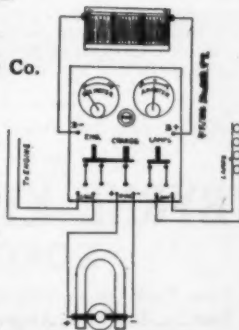
Owners		Owners	
Freight Boat "Maris".....	Anderson Lumber Co.	Freight Boat "Willie".....	"Capt. F. Rivers"
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" " "Annie Moore".....	Capt. Henry Bailey	" " "Owen G".....	Dr. J. F. Riddle
" " "Edward S".....	Capt. Edward Steencken	Freight or tow boat "Dorothy".....	Tuxbury Lumber Co.

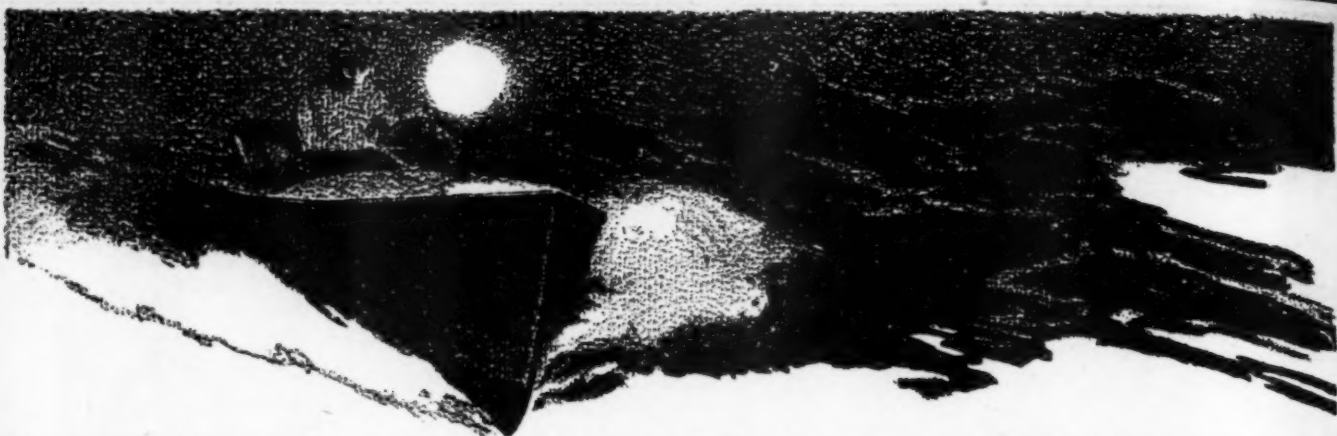
Other Yachts—"Grace", "Dolphin", "Barkis", "Nakomis", etc.

Besides these large boats, we have installed plants and ignition supply outfit on many boats from 16 ft. to 30 ft. in length. Let us know your requirements.

Four different sizes of regular outfits, 4 to 10 lights and ignition. Prices on these outfits range from \$65.00 to \$118.00. You need a Lebby System for the sake of economy, safety and reliability. Write today.

**LEBBY ENGINEERING CO., Meeting and Cumberland Sts., Charleston, S. C.**





There is only one right way to light your way—and light your boat: the Aplco way.  
If you will get ready for this coming season now by installing the

## APLCO ELECTRIC LIGHTING SYSTEM

you will be able to enjoy night riding as you never have before.

With Aplco electric lights you are through with the uncertainty of gas and oil lamps; with the inadequate searchlights or cabin illumination; with the probable failure of either at a critical time; with the element of risk always present when kerosene or gas tanks are in your boat.

Your cabin and every part of your boat can be flooded with splendid steady light; always reliable and with no possibility of running out.

The Aplco system for motor boats includes a dynamo driven by the boat's engine regulated to supply the storage battery without overcharge or undercharge; there is no possible way to be without current under almost any conceivable conditions. The storage battery will run the lights for several hours if the engine is out of commission.

Your Aplco equipment will include the finest kind of searchlight that is scientifically built to project a fog piercing ray; running lamps of heavy brass that comply with government regulations in every way (and they have no ventilators to let in water), bow and riding lights of the same high quality; dome lamps and brackets for your cabin, and an extension hand lamp.

Think of the reliability, the complete feeling of confidence such a method of lighting insures for your riding this season. Our book in regard to the Aplco System is just what you want now; send for it in plenty of time to get ready. It gives you the exact details and information of what you want for your boat; how it works; how it never fails. Find out about

The Right Way to Light the Way

The Apple Electric Company, 78 Canal Street, Dayton, Ohio



HORIZONTAL TYPE

## Try This New Carburetor for Thirty Days at Our Risk

We are so sure that the new Model "Y" Kingston will give you better service on your motor than you are now receiving—that it will sell itself to you—we are willing to bear all the risk and expense of a trial in your hands. This is why—

### MADE FOR POOR GASOLENE

This model is designed especially for the present low-grade of fuel. It will give you more power, more revolutions and eliminate the hard starting and uneven running you have probably noticed your old carburetor has caused you lately, because of the poor fuel. Like all other Kingstons, the Model "Y" has Floating Ball Air Valves and Single adjustment—two basic Kingston features.

This is the trouble-proof carburetor—the one that will give you the greatest satisfaction and economy with the least trouble, tinkering and adjustment. It is the ideal marine carburetor, least affected by climatic conditions. Novice or expert, it is the carburetor for you.

Write today for Free Trial Offer and Guarantee

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PHANTOM VIEW





## Owners Are the Best Satisfied Motor Boat Owners

### Because

- First** They have clean, cool, noiseless engine rooms.
- Second** They have "that feeling of safety" in any kind of weather.
- Third** Their engine does not require attention more than once or twice a day, therefore giving a trip of pleasure.
- Fourth** RALACO Engines have given those who want to run their own boats, the chance to do so, without the necessity of being always in overalls.
- Fifth** RALACO Engines are easily understood, as simplicity is the chief feature of their design.

Before buying, it is your duty to investigate this wonderfully clean, noiseless, dependable engine.

Sizes from 10 to 75 H. P. for all the better class of cruising and working boats.

### THE S. M. JONES COMPANY

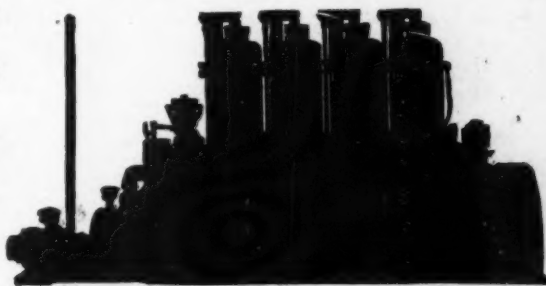
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## "CELLO" Searchlights

Guaranteed to Do the Work on Six Dry Batteries



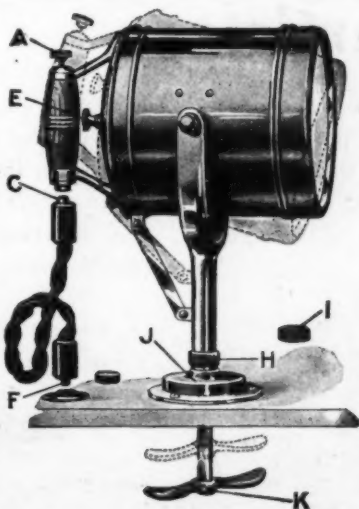
**Baby with Bracket \$5.00**

This Search Light has shown from an actual test that type of this size can be read by a Person 1,000 feet from light.



**Auto Pattern**

No. 4—6x4 Barrel.....	\$10.00
No. 5—6x6 Barrel.....	12.00
No. 6—6x6 Barrel with Focusing Screw .....	14.00



**Our New Pilot House Light**

No. 7—6x6 Barrel.....	\$14.00
No. 8—6x6 Barrel with Focusing Screw .....	16.00

### A. S. Campbell Co.

284 Commercial St.

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Send for Circulars of the "CELLO" Line



**Dash Pattern**

Prices same as Deck Pattern

Thousands in use. Ask some user how he likes the "Cello." Sent prepaid by Parcels Post.



**Deck Pattern**

No. 1—6x4 Barrel.....	\$10.00
No. 2—6x6 Barrel.....	10.00
No. 3—6x6 Barrel with Focusing Screw .....	12.00

## There's A Book About The CURTISS FLYING BOAT



The Book of the Flying Boat is a Series of 20 Pictures Taken on the Water, on the Air, and Back Again to Water and Land. The Value This Book for the Pictures and the Information About Water Flying. It Will Help You Understand Why Mr. C. M. Heckscher, of Dixie IV, Said:

*"It's Safer, Faster, More Comfortable than Any Hydroplane"*

The Book Is Free If You Write to

**CURTISS AEROPLANE COMPANY**

33 West Street

## Why Advertised Articles Are the Best Articles



ONE of the first axioms in the science of advertising is that an inferior product cannot be profitably advertised. It won't stand the limelight of publicity. Advertising costs money and to advertise a product without merit is throwing good money away.

¶ When any article is advertised, that fact is a safe guarantee of its reliability. It shows that the manufacturer has proven beyond question that it meets the public demand. No sane business man will try to build a skyscraper on a quick-sand foundation, and for the same reason no business man will invest a part of his working capital in advertising a product that cannot be built into a permanent success.

¶ Nothing will eliminate an inferior article quicker than advertising. I do not contend that all reliable goods are necessarily advertised goods, but I do contend that all regularly advertised goods are reliable goods.

¶ The advertising section of a successful magazine is an absolutely safe buying guide. In this section of MoToR BoatinG are to be found, for instance, practically all prod-

ucts good enough to be brought before the boating public in a national way. Take marine motors, ignition devices, propellers, varnishes or any other marine product you are looking for. The representative manufacturers in each line use the magazine to tell prospective customers which articles are best adapted to their individual requirements.

¶ Advertising decreases the cost to the consumer and increases the profit for the dealer who handles advertised goods. By facilitating distribution and cutting down selling expense it performs a real service which is similar to the efficiency of the modern railway system as compared with the methods of transporting goods from city to city a century ago.

*Jos. S. Thibault*  
Advertising Manager

**MoToR BoatinG, 115 West 40th Street New York**

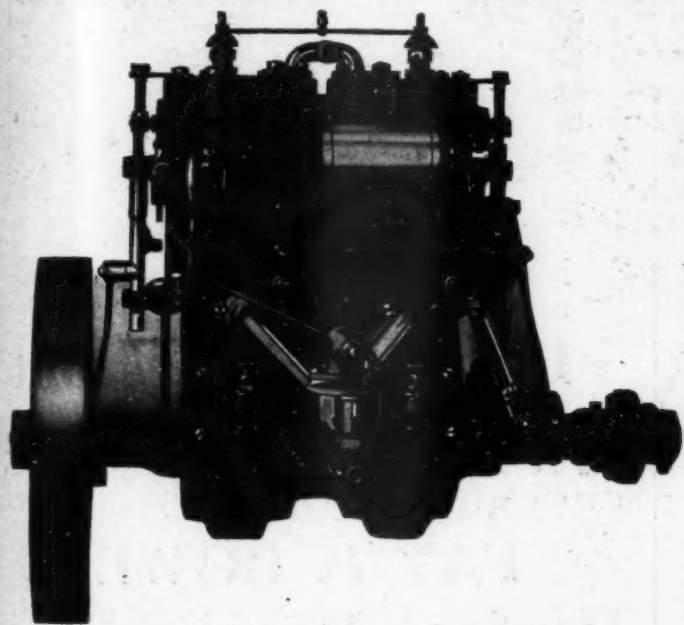


The  
Most  
One



Could  
Wish  
For

The illustration shows our 1913 Medium Heavy Duty Type Gasoline Motor, admittedly the most highly perfected of its type. The general design embodies a number of exclusive features which have made the Bridgeport famous as a practical working outfit, from the viewpoint of the operator.



All models are fitted with our Bridgeport Vapor Rectifier which prevents back-firing, provides reliable service at all speeds, and economical fuel consumption.

Our Kerosene Motors, fitted with the **BRIDGEPORT OIL TRANSFORMER** operate successfully on Kerosene.

Send for free catalog "B"

**THE BRIDGEPORT MOTOR CO., Inc.**  
BRIDGEPORT, CONN. U. S. A.

## Here's "Gossoon," the fastest craft of her kind, powered with a Loew Victor

Gossoon, the famous motor boat cruiser from the Delaware River, has just been sold to the Harbor Commission of Quebec, where she will be used as a harbor patrol boat. Her 6-cylinder Loew Victor engine develops 41 horse power at 700 R. P. M.

### Read what her owners say about their 6-cylinder Loew Victor

"Our Loew Victor engine has given us the greatest satisfaction and we have entire confidence in the machine as we have made several runs of over one hundred miles continuous running, with the engine turning at an average of 700 R. P. M., and have never had a breakdown or the slightest trouble of any kind with the engine."

"It is very quiet running and there is practically no vibration, so that after the engine is started and the engine room doors are closed there is no noise and in the cockpit you would hardly know that there is an engine in the boat."

"Bowes & Mower."



### Loew Victor Motors for 1913

#### Medium Duty

1 Cyl. 6 H. P.

2 Cyl. 12 H. P.

3 Cyl. 18 H. P.

4 Cyl. 25 H. P.

6 Cyl. 36 H. P.

#### High Speed

4 Cyl. 30 H. P.

6 Cyl. 40 H. P.

8 Cyl. 60 H. P.

605828

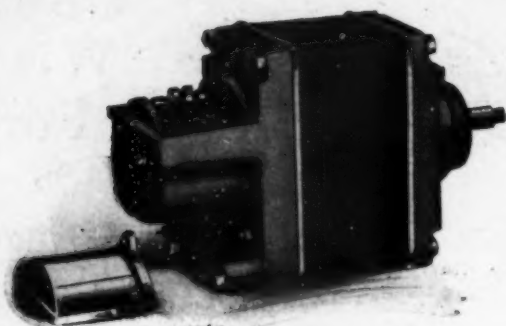
Send for booklets about Loew Victor performances.

The Loew Manufacturing Co.

1907 Madison Avenue

Cleveland, Ohio

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



Leece-Neville generator.

## Press the Button And Your Engine Starts

You won't have to break your back, wrench your arm or smash your fingers cranking by hand if you get an engine equipped with a

### Leece-Neville Starting and Lighting System

Includes electric generator and storage battery, with electric motor independently connected to engine for cranking purposes.

Generator furnishes 6 amperes at 24 volts, or 144 watts, equal to 150 candle power.

This generator is connected to 24 volt, 50 ampere hour storage battery.

Energy is practically all available for lighting purposes, as little power is required to operate starting motor.

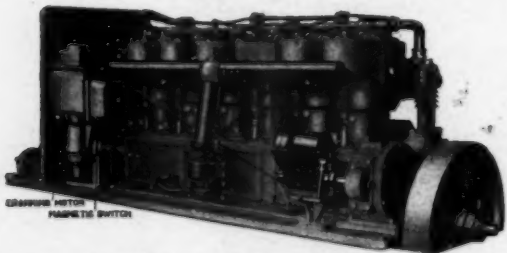
System so simple it can be repaired, cleaned and cared for by owner.

#### Marine Instruction Book

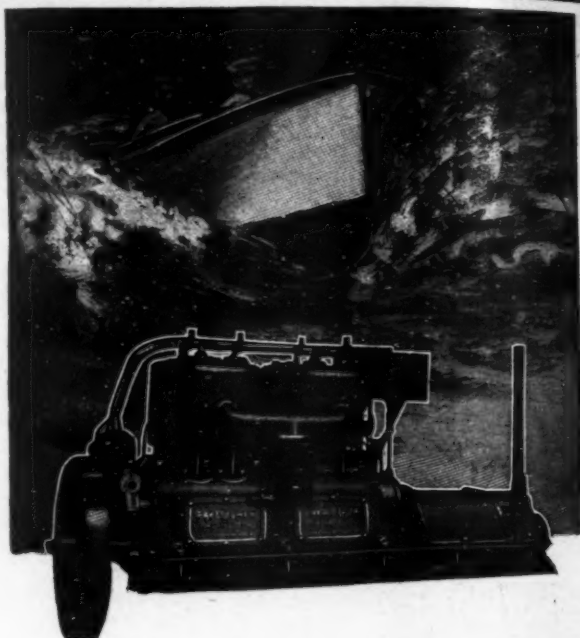
sent free to all boat owners interested in electric lighting or starting. Write today for copy.

**The Leece-Neville Company**  
Cleveland, Ohio

## 100 Per Cent. Efficient



Leece-Neville Starting System mounted on Loew Victor Engine.



## It's the Power Plant

that finally makes the motor boat. The "go" has been put into many a slow boat by the unexcelled

### FAY & BOWEN Perfect Power Plant

Fay & Bowen system of triple lubrication for crank pins is unique. All gearing is completely enclosed, yet easy of access. No engine is quieter, simpler or more easy to handle. Bosch Dual Magneto ignition reduces high tension wiring and requires only one set of plugs, yet provides two ignition systems. Long stroke; intake and exhaust valves mechanically operated; both mechanical and splash lubrication; multiple plate reversing clutch.

Fay & Bowen four-cycle engines are made in a full line of cylinder sizes—put up in two, four and six cylinders—from 5 to 65 H. P.

If it's the two-cycle type you prefer, remember that Fay & Bowen two-cycle engines are the best. Single, double, and triple cylinder construction;  $2\frac{1}{4}$  to 45 H. P. Our two-cycle "Convertible" engines will really run on kerosene!

**Fay & Bowen Boats** include a line of different sizes and types from a 21 ft. family launch to our 32 ft. 20-mile "runabout," or a completely equipped cruiser. Our "25 ft. Special" family launch is a familiar sight on Long Island Sound, Lake Hopatcong, the Adirondack Lakes—wherever boat-lovers gather.

#### Send for Catalog and Prices

If you know what you want, tell us.  
If you don't quite know, ask us.



F &amp; B 2-cycle engine

**FAY & BOWEN ENGINE CO.**

104 Lake St., Geneva, N.Y., U. S. A.



## "SANDS" Sanitary Fixtures

FOUR EXCELLENT FIXTURES FOR  
MOTOR BOATS AND CRUISERS

THE "UPKEEP" OF  
SANDS' FIXTURES  
IS NEGLIGIBLE.

SANITATION ON YOUR BOAT IS JUST AS  
IMPORTANT AS IN  
YOUR HOUSE.



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PLATE S-3030.

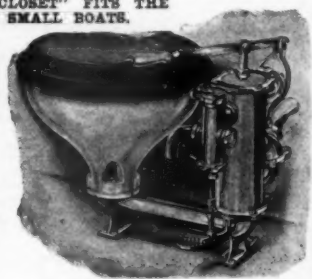
(Patented—Copyrighted.)  
The "Improved Mohawk" Pump  
Water Closet, extra heavy Vitro-adamant  
anti oval flushing rim hopper bowl.  
Composition supply and waste pump  
three (3) inch cylinder.  
Pump rough with polished trim-  
mings, oak seat and cover.....\$70.00

"MANOR," PLATE S-30.

The "Manor" Pump Water Closet  
with 4-inch Combined supply and waste  
pump, oval pedestal, Vitro-adamant  
bowl, polished quartered oak seat and  
cover, automatic safety water supply  
foot valve.

Complete .....\$100.00  
Mahogany seat and cover add... 2.00

THE "BOW CLOSET" FITS THE  
EYES OF SMALL BOATS.



THE "BOW" CLOSET, PLATE S-3050.

(Design Patent Applied For.)  
The "Bow Closet," Vitro-adamant  
bowl, 3/4-in. pump, located at rear,  
flush with wing handle. Quick open-  
ing supply valve. Space occupied, 15 x  
8 in.

Pump rough, with finished trim-  
mings, oak seat, N. P. Hinges..\$30.00  
Dimensions: Front to back 23 in.,  
width 14 in., height 12 inches.  
Net weight, 35 lbs. Shipping, 70 lbs.

"KNOCKABOUT," PLATE S-34.

The "Knockabout" Improved Pump  
Water Closet, round flushing rim hopper  
bowl, two and one-half (2 1/2) inch sup-  
ply and waste pump. "Sands Patent  
Automatic Safety Supply Foot Valve."

Pump rough, finished trimmings,  
oak seat and cover.....\$52.50

If mahogany seat and cover, add 1.50  
Weight: Net, 45 lbs.; Gross, 75 lbs.



IN STOCK  
FOR  
IMMEDIATE  
SHIPMENT.



PLATE S-186.

The "Aero" Folding Lavatory, N. P.  
copper lining, combined round basin and  
slab, N. P. composition pump, swing sup-  
ply faucet, N. P. brass waste and sup-  
ply couplings, oak case. Complete..\$26.00  
Height over all, 19 1/4 inches; width, 15  
inches; depth closed, 5 1/4 inches; depth  
open, 10 1/4 inches; basin, 10 inches.

PLATE S-4254  
Basin Pump with  
low down spout,  
1 1/2-in. cylinder.  
For use in cock  
hole of lavatory.  
Pol. Brass..\$12.00  
Pol. & N.P.. 14.00



PLATE S-122 1/2.

All Cast Bronze  
Heavy Pattern  
Combination Inlet  
Connection, with  
Strainer and Scoop.  
Iron Lead  
Size Pipe. Pipe. 1/4 in.....\$2.25  
1/2 in.....\$2.65  
3/4 in.....2.90  
1 in.....3.00



PLATE S-120.

The "Glenora"  
Composition Flange  
and Coupling for  
use on supply and  
discharge pipe of  
closets.

Large Assortment of Closets, Lavatories, Deck Plates, Ventilators, Portlights,  
Hatch and Galley Pumps, shown in CATALOG "E," free upon application.

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1843

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1913

LARGEST MANUFACTURERS IN THE WORLD OF

**MARINE PLUMBING SPECIALTIES**

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NEW YORK, U. S. A.



## "YVONNE" The Pride of Providence

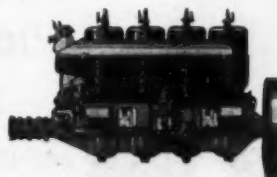
"Yvonne" has a proud record. It is no wonder  
that both her owner and the club whose flag she  
carries are proud of her and the work that she has  
done.

"Yvonne" is a 25 ft. "V"-Bottom Bath Cruiser  
equipped with a 40 H. P. Roberts Motor. She  
travels at better than 15 miles an hour. This com-  
bination was indeed successful last season for  
"Yvonne" was an easy winner against everything  
in her vicinity. Her record is clean. She has  
never been defeated and has finished every race  
that she has entered. Furthermore she has entered  
every race to which she was eligible, in many cases  
competing with cruisers of over forty feet in  
length with twice and three times her power.

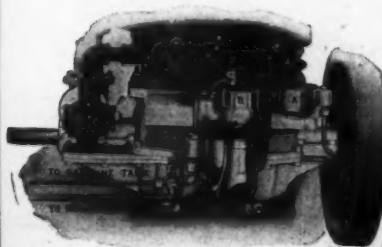
Further details about the record of "Yvonne" and  
other successful Roberts equipped boats will be will-  
ingly given.

ROBERTS MOTORS are built in twenty sizes, 3  
to 125 H. P. Thus we have an engine suitable for  
any type of boat. Send us your specifications and  
allow us to figure with you.

All Models  
operate on  
**KEROSENE**  
as well as on  
**GASOLINE**



THE ENGINE IN YVONNE  
40 H.P. ROBERTS  
STANDARD 498 LBS.



SPECIAL CARBURETOR USED WITH  
ROBERTS KEROSENE MOTORS

Send  
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Catalog  
and  
Agency  
Offer

**The Roberts Motor Co.**

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Sandusky, Ohio

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# Headquarters For Canada

## For Marine Engines and Accessories

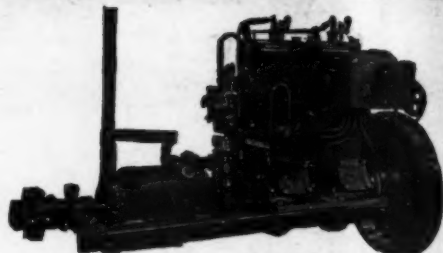
Have you a copy of our 1913 catalog of Marine Accessories? We carry the most complete line of motor boat supplies in Canada. All of our branches are well stocked.

We are distributors for Bosch Magneto, Wheeler and Schebler Carburetors, Paragon Reverse Gears, Jeffrey-Dewitt Plugs, Aplco Electric Outfits,

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We also carry a complete stock of Marine Hardware and Fittings. Send for catalog.

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MONTREAL, ST. JOHN, OTTAWA, TORONTO, WINNIPEG,  
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12 H.P. Fairbanks-Morse, Two-Cylinder, Type "G" Two-Cycle Three-Port Marine Engine. Equipped with Bosch Magneto, Paragon Reverse Gear, and Helical Gears, making it a noiseless running engine.



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Troy, N. Y., Mar. 11, 1913

Niagara Motor Boat Co., North Tonawanda, N. Y.

Dear Sirs:—I am in receipt of yours of the 1st inst., and in reply beg to say that it will be a pleasure for me to recommend your boats, should any customers seek information from me.

My boat has been a wonderful success, in fact it has given me greater satisfaction than I anticipated at the time of purchase. Do not hesitate to refer to me at any time.

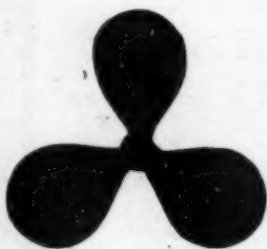
With kind personal regards, believe me, Very truly yours,  
Dict. J. J. M. Signed. JOSEPH J. MURPHY.

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**NIAGARA MOTOR BOAT CO.**  
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Are the Most Efficient For Speed,  
Pleasure and Commercial Boats



Unexcelled in design, material and workmanship.  
Made in diameters and pitches to suit all conditions.

All Genuine Hyde Propellers have the name stamped on the hub.

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The latest and best method of controlling the engine from the steering stand or station, using air from the whistle tank.

HYDE WINDLASS CO.

BATH, ME.



## The Best There is in Modern Boat Designs

is what you will require in your new runabout or cruiser. It must be a boat that you will be proud of on account of its beauty, its comfort, and because you believe it is the best boat you have ever seen. If it is to thoroughly satisfy you in every way, it will be a Milwaukee Boat.

**MILWAUKEE YACHT & BOAT COMPANY**  
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EDISON-BSCO  
Type 206  
Cell 200  
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Edison Primary Batteries greatly outnumber other types in all service where a continuous flow of current is necessary. In work of such nature, a battery of the open circuit type, such as dry cells, cannot be used owing to their inability to maintain voltage when current is drawn continuously.

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A reliable battery sparking the engine not only spells economy, every charge of gas being fired, but makes for greater pleasure in the use of the boat, owing to the feeling of security engendered by knowing that the ignition voltage will be the same at the end as at the beginning of a long cruise.

A set of EDISON-BSCO cells contain many times the capacity of a set of dry cells and comparative costs based on capacity show a considerable saving in favor of the Edison.

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of Battery Energy  
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Complete Renewal

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"It is certainly a pleasure to have an engine like the Ferro that all you have to do is to turn the switch, give a pull on the crank and sit down and enjoy yourself with a feeling that the engine is going to take you to your destination without any trouble.

"You can honestly advertise that when you buy a Ferro your troubles are over."

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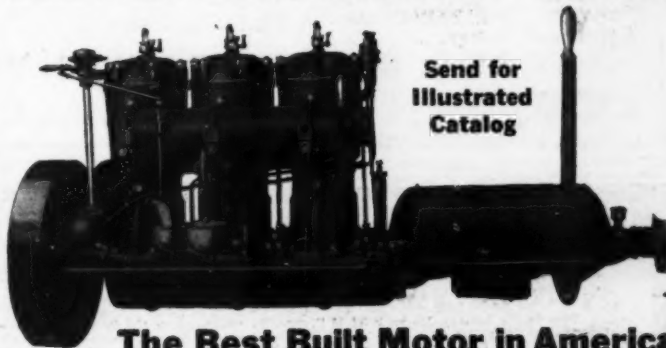
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THE GREATER ULTIMATE VALUE of a Ferro engine begins to manifest itself from the first hour after installation. Year after year—if it's a Ferro—your engine is ready for another season's service—for pleasure or profit.

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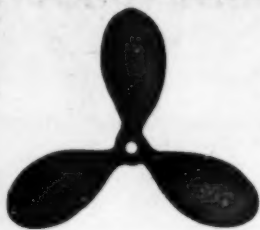
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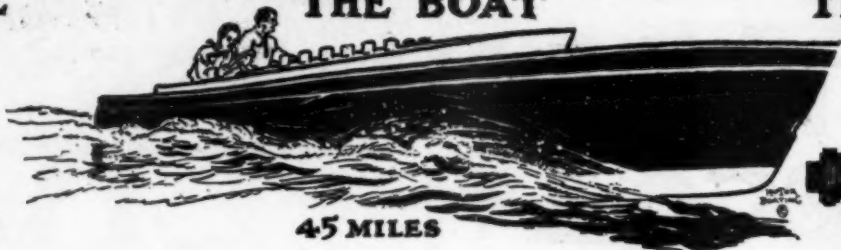
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## THE WHEEL

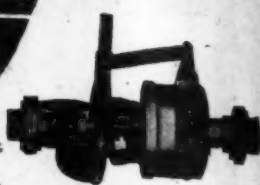


## THE BOAT



45 MILES

## THE GEAR



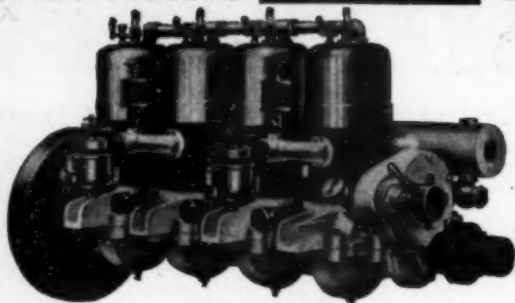
Famous Michigan Speed Wheels, Reverse Gears and High Grade Motor Boat Supplies, known the world over as superior to all others; our specialty, and we are proud of them and their international reputation.

Don't buy until you have received our 1913 catalog, full of interesting information to every boat owner. This year you must have one of the famous Michigan Propeller Wheels or Reverse Gears, or some accessories, and be one of the happy thousands of satisfied customers we have, who all swear by the Michigan.

**MICHIGAN WHEEL CO., Grand Rapids, Michigan, 1115 Monroe Avenue**

REMEMBER THE NAME MICHIGAN. IT STANDS FOR HIGH GRADE MOTOR BOAT SUPPLIES. EASTERN BRANCH: 69 CORTLANDT ST., N. Y. C.

## Two Motors that have made The Waterman Reputation World-Famous



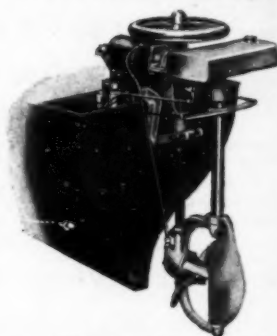
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Sturdy, dependable, powerful—Waterman Motors meet the severest tests whether of rough open sea or extended speed contest. For pleasure boats, rowboats, hydroplanes, work boats—there's a Waterman for every purpose. Every one is guaranteed for life—every one is light, robust, smooth-running.

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This famous midjet gives TWO FULL H. P.—weighs but 56 lbs. complete, propeller, rudder and all. Bore, 2 3/4 ins.; stroke, 3 ins. Copper-jacketed; under-water exhaust; steers with tiller ropes. Drives an 18-ft. rowboat 7 miles per hour. 4 hours on a gallon of gasoline. Eighth year of success—it's the original.

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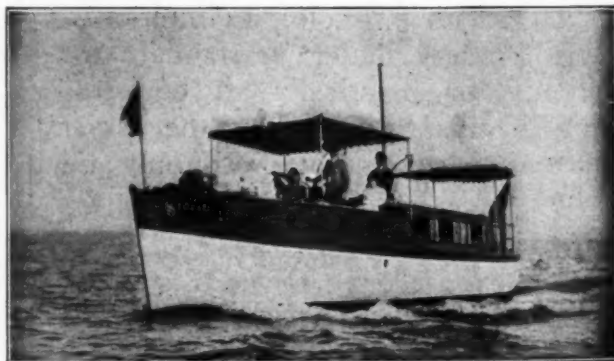
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WATCH THE PERFORMANCE OF ANY RACINE, WISCONSIN. WRITE US TO-DAY. **QUALITY—CRAFT.**

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MATHIS-BUILT HOUSEBOATS cost much less to build and operate, yet possess every advantage of cruisers of 25% greater length.

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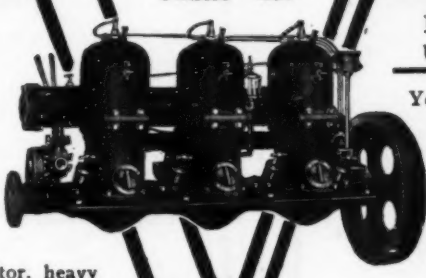
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SPEED—REGULAR—HEAVY DUTY**

Strong, neat, simple—absolutely dependable. Give honest, enduring service—constant satisfaction. Win your enthusiastic confidence. Easily accessible—crank case conveniently opened from either side. Non-backfiring. Double ignition. Easy starting fly-wheel. Connections for rear starter. Equipment includes Paragon reverse gears. Mea Magnetos, Noxon distributor, heavy brass fittings and many other exclusive features.



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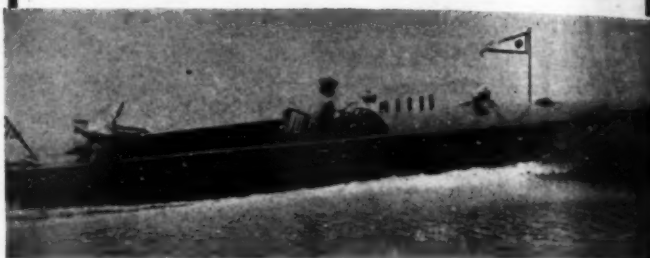
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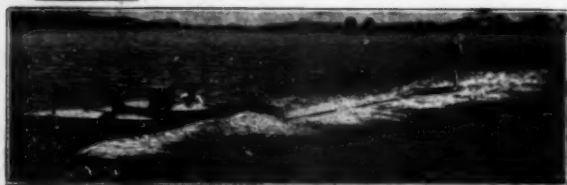
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\$3.50 is all!

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The best varnish made for interior marine work, cabins, woodwork, floors, etc. Furnished in colors and clear.

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A paint and varnish remover that acts almost instantaneously on ordinary work. The only product which satisfactorily removes old lead, zinc paint, enamel or shellac. Does not burn the hands.

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This book gives invaluable advice and hints which every boatman should know. Free upon request.

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A piston ring has to be of a softer iron than the cylinder is made of—else your cylinder wears and you've got an imperfect cylinder, assured leakage and increased carbonization until it is re-bored or re-ground.

Yet—a piston ring must have body to give it the spring and lasting elasticity which are necessary for equal tension and to retain the roundness and perfectness of the cylinders—else you've got leakage, (decreased power).

## LEAK-PROOF Piston Rings

(PATENTED)

are made of Processed Gray Iron—a special processed iron having just the properties of softness and spring that make the ideal piston ring. Too soft to wear out the cylinder, yet hard and strong enough to last as long as the motor will last.

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Manufactured by  
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Registered



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Lubroleine Oils are made in five grades: Crystal, Special Light, Light, Medium and Heavy.

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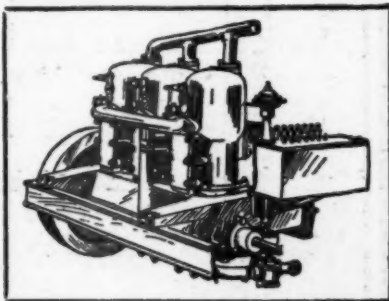
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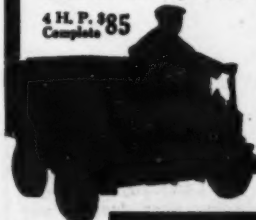
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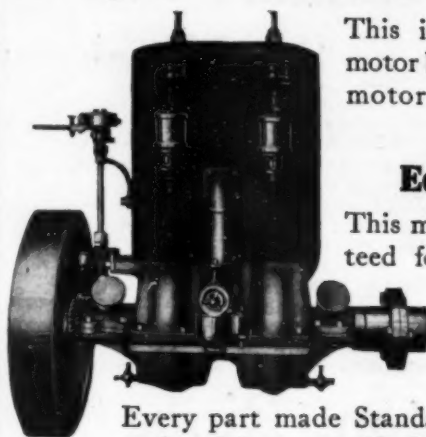
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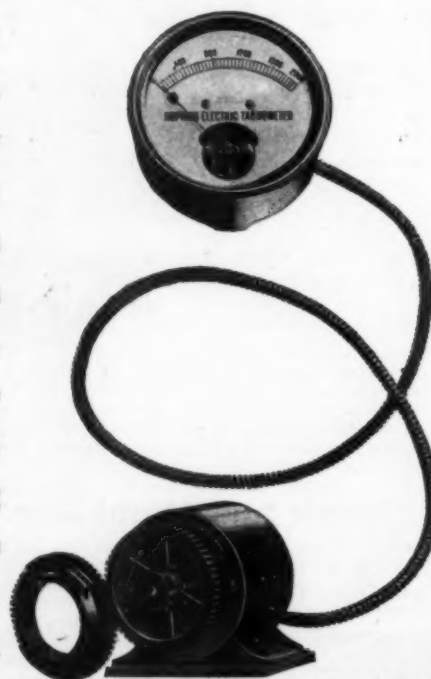
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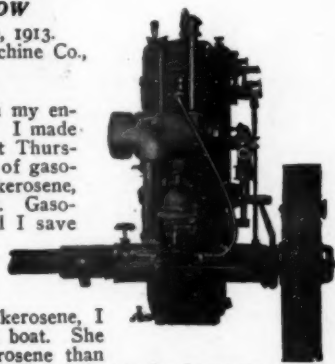
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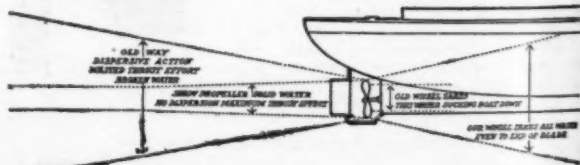
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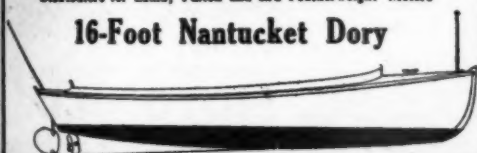
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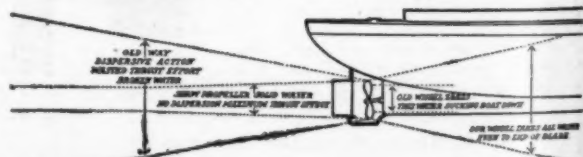
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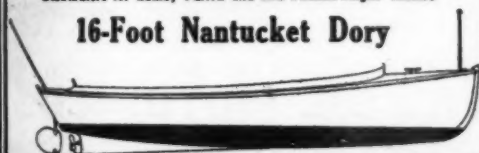
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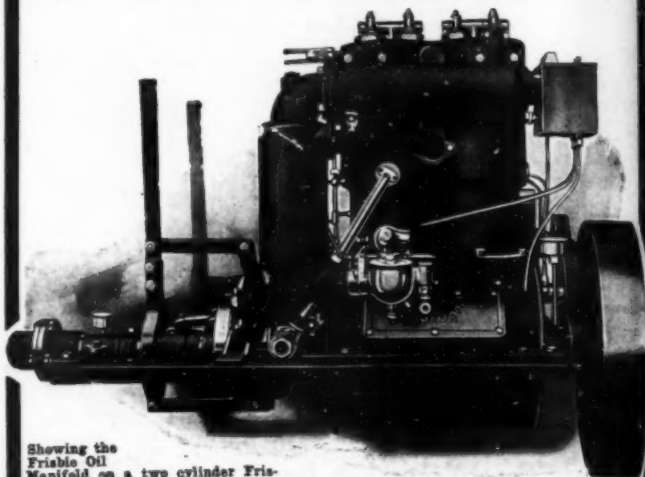
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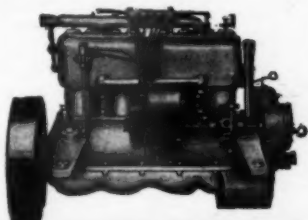
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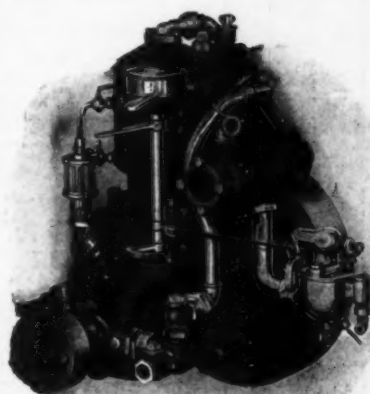


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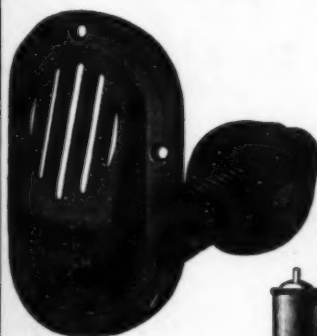
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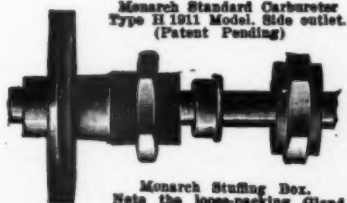
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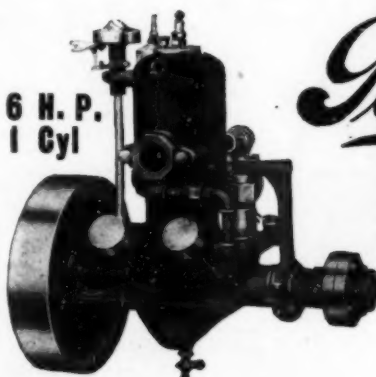
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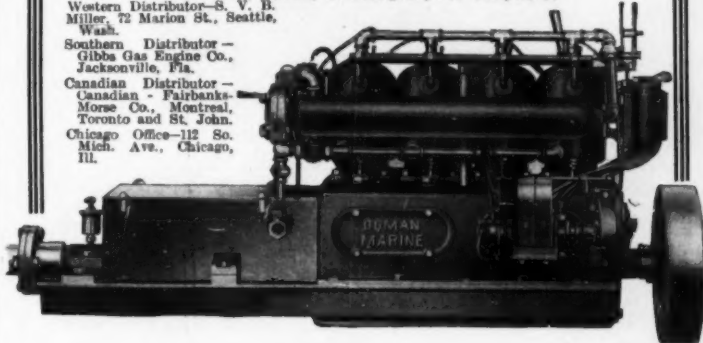
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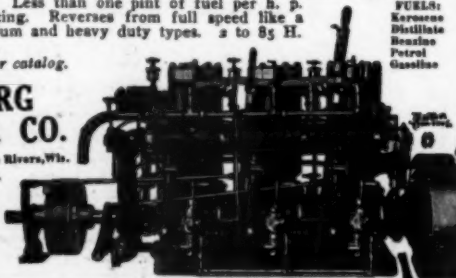
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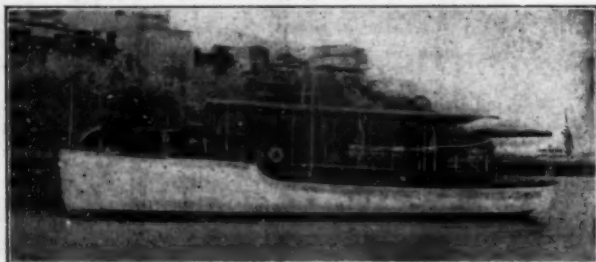
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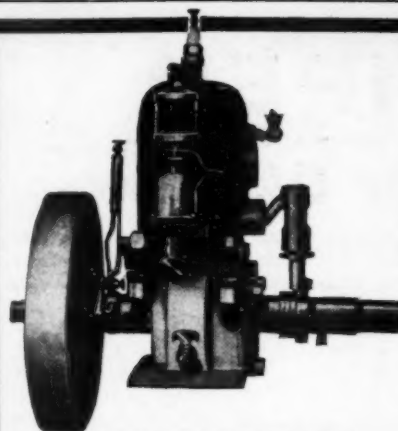
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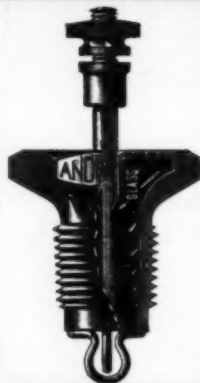
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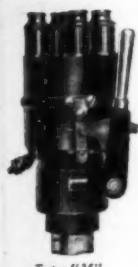
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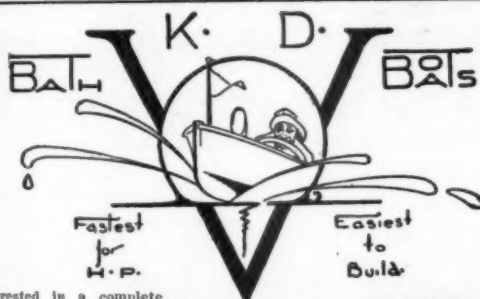
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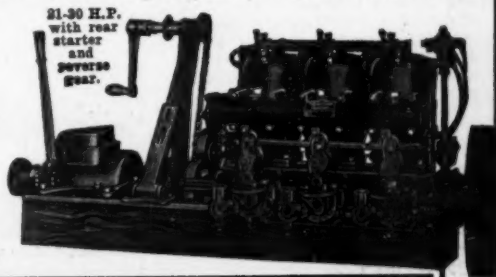
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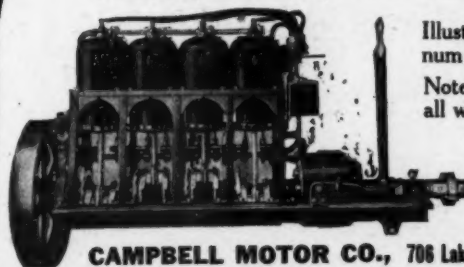


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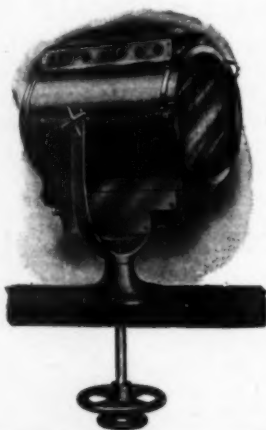
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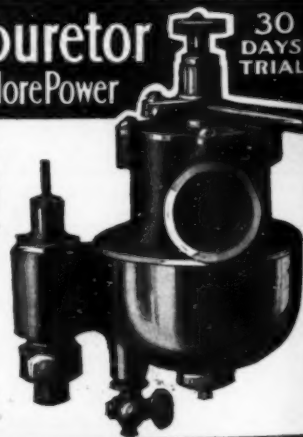
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### Pneumatic Mattresses, Fibre Cushions, Spray Hoods

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Mattress—Comfortable, Portable, Durable; mildew and vermin proof. Delicately, occupies little space. Made to fit any berth or seat. Used like a raft, supports 12 persons. 6,000 in use on American and Red Star Liners.

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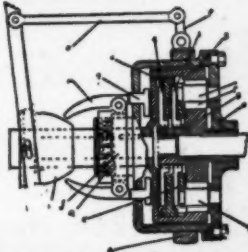
## OXFORD MARINE REVERSE GEAR

### The Gear That Is Different

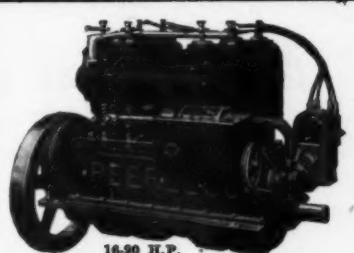
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Only \$300

Here is the motor you want, at the price you want to pay. Before you buy any engine, give this careful study.

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Reverse gear on lower half of base, \$40 extra.

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**PEERLESS ENGINE COMPANY,** Buffalo, N. Y.

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Will Not Leak, Stick, nor Seize

Will Grind in Instantly

Cheaper than the troublesome old kind

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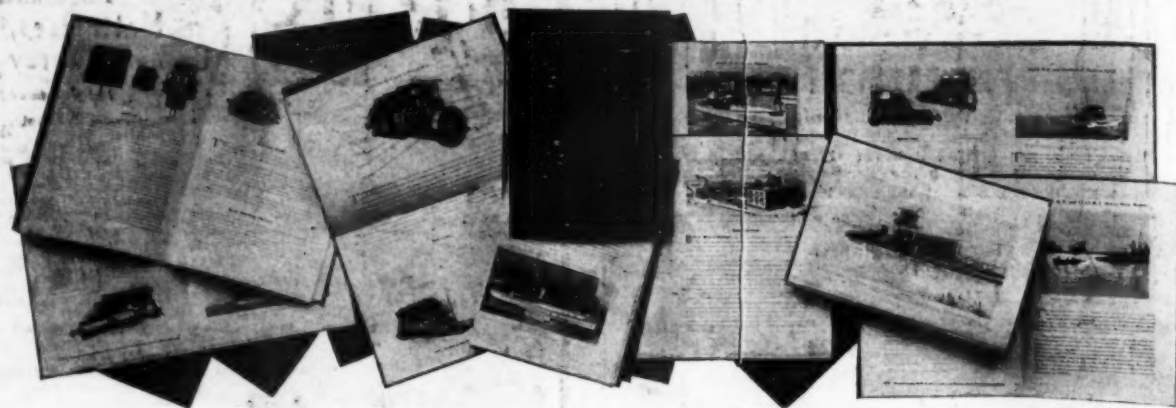


NOTE THIS BALL JOINTED VALVE WITH SCREW DRIVER SLOT FOR GRINDING NOTE THIS LARGE STRAIGHT HOLE

Which is a guarantee of service and quality

Morgan's of Morgan's Hose Clamps and Utility Tools

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## Have You Received Your "Buffalo Book"?

We are anxious to place a copy of the "Buffalo Book" in the hands of every one who is considering the purchase of a marine engine.

If you are one of them do not fail to write to us today, for it may be the means of putting money in your pocket, and giving you more pleasure from your boat.

The "Buffalo Book" tells the whole story of "Buffalo" marine engines. It is worth its weight in minted gold to the prospective engine buyer, but we will gladly send it free if you will return this coupon properly filled out, or a letter telling us about your requirements.

### "Buffalo" Marine Engines

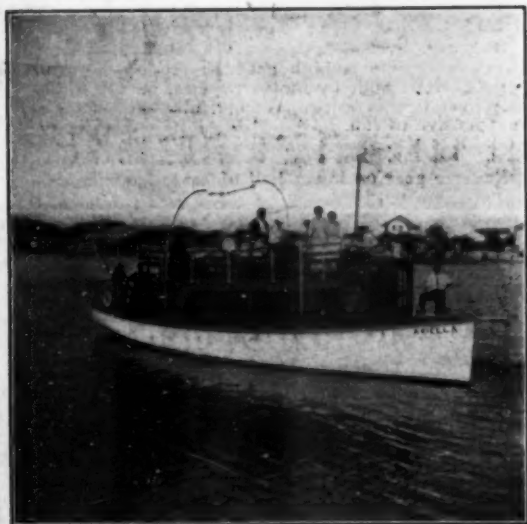
"Buffalo" engines are all of the four-stroke cycle type, 19 models, 3 to 150 H. P., gasoline or kerosene.

**BUFFALO GASOLENE MOTOR CO.**  
1274-1286 Niagara Street Buffalo, N. Y.

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<b>Buffalo Gasoline Motor Co.:</b>	
Send me information concerning the best power plant for a boat of the type before which I have marked "X" and of the size here stated:	
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## 18,000 Miles with a Lamb Engine

Lamb Engine owners get perfect service—the kind of service every owner wants to get from his engine. No matter when or where, how far or how short notice, every Lamb Engine is ready to start and go as far as the owner's desires carry him.



"ARIELLA," Ira C. Lambert, Owner

### A Typical Record



ROCKLEDGE, FLA., April 1st, 1913.

MR. A. E. ELDREDGE,  
Lamb Engine Co. of N. Y.

Dear Sir:—We left Rockledge this morning 5.35 A. M. on our way to Toms River, N. J.

The boat has finished 18,000 miles since May 30th, 1911. Expect to be in N. Y. 15th to 20th.

Very truly yours,

IRA C. LAMBERT.

Utmost reliability is a Lamb characteristic. Quietness and smoothness of operation, power, strength, economy, durability, freedom from troubles and repairs—all these good qualities are possessed by the Lamb in the highest degree. It is a thoroughly high grade engine in every detail of design, materials, workmanship and performance. All models are of the long stroke, four cycle type.

19 Models. High Speed, Medium Duty, and Heavy Duty. Two, Three, Four and Six Cylinders. Twelve to Sixty-Seven Horse-Power. Write for latest Catalog

Manufactured by the Lamb Boat and Engine Co., Clinton, Iowa

**Lamb Engine Company of New York, 30 Church Street : : New York City**

Eastern and Foreign Distributors

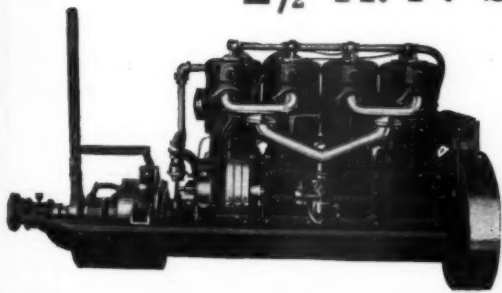


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Let Us "Show You"

¶ "Engine Worth" is not in extravagant claims made but in promises kept. The Anderson Engine "*makes good*" because it is *made right*—it does its work *faithfully* and *well* and the cost of maintenance is always low.

2½ H. P. Single to 150 H. P. "Six"

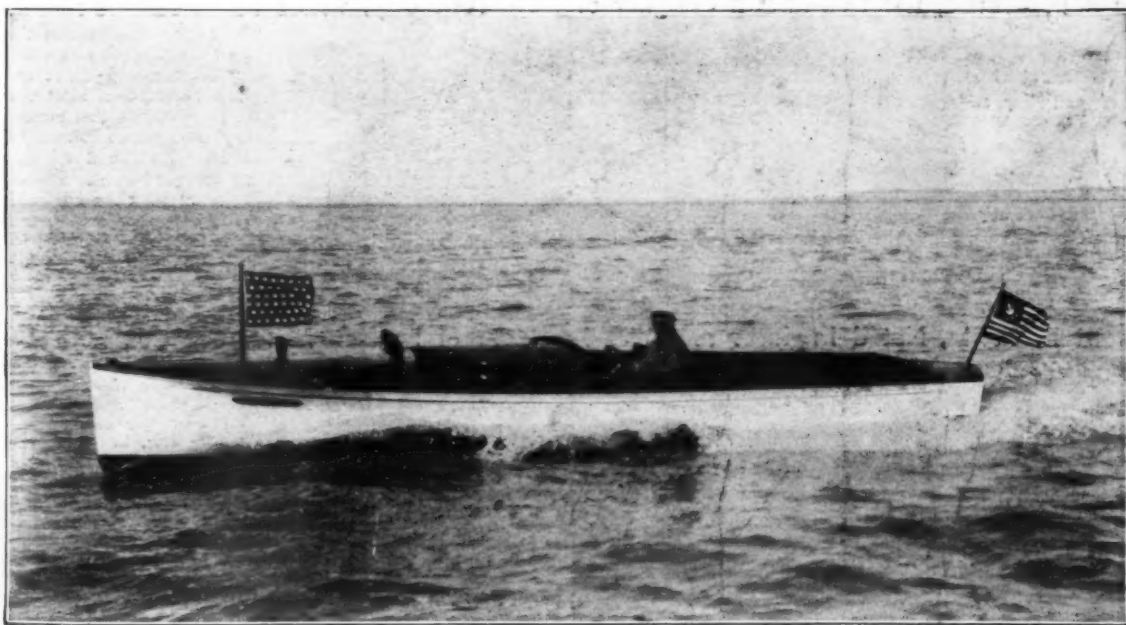


¶ Get facts and figures from us before you buy your engine. It will cost you nothing and may save you time, trouble and money.

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Home Office: 136 S. DEARBORN STREET - CHICAGO, ILL.

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30' x 5' 6" Runabout OTSEGO, owned by John M. Bowers, of New York City.  
21.9 miles average speed on 20-mile course.

Florida boats should be ordered now.

The Matthews Boat Company Cruising Yachts  
of  
Quality Port Clinton, Ohio

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**Sterling**  
THE ENGINE OF REFINEMENT  
*For the finest boats that float*

*The Clean Unworried Sport*

## THIS SURELY IS ANOTHER STERLING YEAR

No matter where you go; no matter who you ask the question "What engine have you got?" the answer invariably is "STERLING."

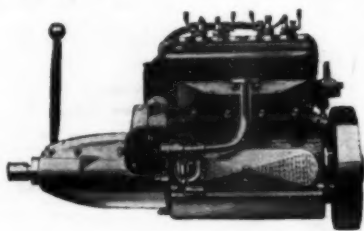
You hear the result of a famous boat race and ask what engine powered the winning boat, and the reply comes back "STERLING" every time.

Another speed record has been broken, the mile-a-minute dream has almost been realized. "Who did it?" you ask.—"A STERLING-powered boat," is the certain answer.

You naturally look for the reasons for this universal use of Sterling engines and find one of them in the enthusiastic recommendations of Sterling Owners, recommendations such as the following:

**Scott J. Matthews, President Matthews Boat Co., Port Clinton, O., has this to say:—**

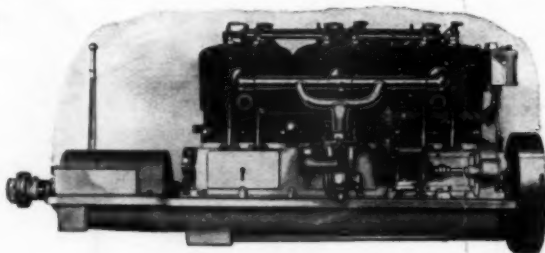
\* \* \* We recently installed one of your "STERLING KID" motors in the "Panther," the tender which we have just completed for Mr. C. E. Ringling. In actual test, we found that this engine would drive this 20-foot by 5-foot tender in a heavy sea, at a speed of better than 12 miles per hour, which we think remarkable. We were agreeably surprised to note the perfect operation, quietness and splendid power developed by this little machine. It certainly provides ideal power for tender work and, in our opinion, is the best we have ever installed. \* \* \*



The "STERLING KID," the engine that Mr. Matthews is so enthusiastic over, is a four-cylinder 10-H.P. machine of the enclosed type with a bore of  $2\frac{3}{4}$  in. and a stroke of  $4\frac{1}{2}$  in., and its total weight is only 215 pounds. It is absolutely the handsomest and staunchest little motor ever built. It is not built to meet a price, but to fill a need that has long existed. It is compact, light, clean and extremely easy to operate, so easy, in fact, that your son or daughter could easily learn to run it. It is not a fragile plaything, but a mighty little motor, perfectly designed and constructed.

**George F. Crouch, the well-known designer of New York City, writes us as follows:—**

\* \* \* The 28-foot runabout, powered with a 6-cylinder 45-75-H.P. STERLING engine, was launched yesterday and given a try-out late in the evening. Without any adjustments of magneto or carbureter, she easily averaged better than her guaranteed speed of 30 M. P. H.—real miles, too. The motor runs very smoothly, without any perceptible vibration, and to say that I am pleased is putting it mildly. \* \* \*



The engine that powers the runabout Mr. Crouch refers to is this 6-cylinder 45-75-H. P. machine,  $5\frac{1}{2}$ -in. bore, 6-in. stroke, and is the same engine that powered the world-famous Dixie, Jr., and P. D. Q. II, and many other famous speed boats. The extreme flexibility of this engine ideally fits it to power runabouts, speed boats and fast cruisers. Lack of vibration and perfect lubrication at all speeds are two big reasons why this engine is so popular.

**Howard E. Coffin, Noted Engineer and Vice-President of Hudson Motor Car Co., says:—**

\* \* \* During the trip of "Wild Oats" from Savannah to New York, we made one continuous run of 147 nautical miles in 10½ hours flat. As a matter of fact, the engine showed the same clocklike performance throughout the entire 900-mile trip, and the motor has been an unusual demonstration of what may be accomplished through up-to-date construction and design. \* \* \*



This is the engine that powers Mr. Coffin's 94-foot cruiser "Wild Oats," and that has given him such splendid service. It is a 100-H. P. heavy-duty, eight-cylinder engine with  $6\frac{1}{2}$ -in. bore and an 8-in. stroke. It is built especially for cruising yachts and commercial boats and meets a constantly-increasing demand for a powerful, flexible and smooth-running motor of absolute reliability.

**You Ought to Have the Sterling Catalog. If You Haven't Got It, Get It—It's Free**

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